The Veterinary Record

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 1. JANUARY 2, 1932. VOL. 12.

SOME MEDICAL AND SURGICAL CONDITIONS IN THE DOG*

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What I am giving to you this afternoon are facts based on prolonged actual experience and should appeal to you as practitioners who will, no doubt, in response, give your views.

Anæsthesia

First of all comes anæsthesia. After many decades of using various general anæsthetics I am forced to the conclusion that chloroform used with skill is the safest and most practical of all for the cat, dog and for that matter, other animals as well. Of course, for the dog, a preliminary hypodermic injection of morphine half-an-hour before the administration does away with the resistance or struggling and screaming, and the need of big doses of chloroform before the superficial reflexes are abolished. The very fact of morphine, with the assistance of a small amount of chloroform, slowing the respiratory effort prevents the animal taking into its system sufficient chloroform to occasion death. Morphine should not be given in the case of chronic bronchitis, as by itself it often has a rapidly fatal effect in such cases. For slight or short operations, in cases of parturition or to keep a refractory animal still during an examination of the throat or other part, or the extraction of a foreign body from the throat or gullet, the preliminary injection of morphine is not necessary.

Chloroform can easily be administered with a 2 lb. wide mouth jam jar or Cerebos salt canister or the aluminium canister as shown. These or similar apparatus are to be found in almost every household. Such simple instruments can readily be sterilised with boiling water or by being baked in an oven or over a gas or oil stove. There is no need to tie the animal down: the operator or assistant seizes the animal at the back of the neck with one hand and presses the body to his side with his arm and elbow and holds the apparatus containing a piece of cotton wool and chloroform with his right hand; or an assistant can hold the animal on its side by grasping the forelegs in one hand and the hind legs with the other hand, the operator seizing the back of the neck. Of course, with the preliminary injection of morphine there is very little resistance or struggling. If there should be struggling the animal goes under more quickly if the apparatus is kept over its muzzle, but as soon as resistance is overcome the apparatus should be drawn away from the muzzle so that the patient can take air freely. There may be no need to hold the apparatus, which can rest on the table during the time that the operator is doing what he sets out to do. Administered with skill, the animal can be kept under the anæsthetic without any attention beyond renewing the supply of chloroform as soon as the canister becomes exhausted of it.

This method is very simple and handy, and can be put into practice anywhere without much expenditure of time, trouble and money. Most apparatus used for small animals, whether for cats, dogs, rabbits, rats or birds cannot be rendered aseptic efficiently and there is no doubt that infection such as that of distemper and infectious enteritis is often conveyed by unsterilised inhalers, when, should death supervene, it is put down to the operation.

I have used sulphonal, urethane, chloralose, somnifene, chloral, nembutal "844" (also termed pentobarbital sodium) and other hypnotics or general anæsthetics by the mouth, rectum, pleural and peritoneal cavities, vein or subcutaneous or intramuscular tissue, but unless large doses are administered they are uncertain in their action—that is, by not always removing the superficial reflexes or keeping the animal still. Once they have been delivered they cannot be withdrawn, the hypnosis is generally too prolonged and risk of death is greater than with chloroform. The prolonged hypnotic effect is not required, especially when the owner is waiting to take the animal away after the operation.

Intussusception with Prolapse of the Intussuscepted Bowel

I have encountered this condition several times as an enzoötic among puppies, especially of the larger breeds. So far as my experience has gone it has always been connected with distemper. Again, I have not as yet encountered prolapse of the rectum or anus in young dogs that was not associated with distemper.

The usual remedies, such as sutures and injections of wax into the anal tissues, have always failed in my hands. For slight prolapses submucous injections of adrenalin and cocaine

*Address given to the Royal Counties Division, N.V.M.A., at 10, Red Lion Square, London, W.C.1, on November 27th, 1931.

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in the wall of the bowel have done away with the desire to strain and the bowel has retained its position. If it should redescend the injections may be repeated; otherwise there is no other reliable course left open but that of opening the peritoneal cavity and suturing the bowel to the wall of the abdomen. A single suture through the peritoneal and muscular coats of the free surface of the bowel and then through the abdominal wall is sufficient.

It is surprising how long an animal can live without showing much inconvenience with a prolapsed or intussuscepted bowel. The danger is when it is being reduced by pressure, not traction, the elbow of the bowel cracking. This liability is due to the bowel wall becoming infiltrated, hardened and fragile.

Uterine Inertia

Uterine inertia corresponds to cramp of the oviduct or the so-called egg-binding. It is observed both in the mammal and bird when the wind is in the North and the weather wet and chilly. It is due to paralysis of the white muscular fibres and resembles the constipation or cramp colic of equines. In my hands pituitrin has been useless in absolute uterine inertia. In birds, exposure to a high temperature, especially in front of an electric radiator, overcomes the trouble in 100 per cent. of cases if used early enough. A hot water radiator or a hot coal fire answers very well.

If pups or kittens cannot be removed with the button-hook or forceps the Cæsarian operation could be performed. The absolute uterine inertia occurs in some kennels as an enzootic. It is thought to be a septicæmic malady, but probably the septicæmia is the effect of retention of dead pups.

Dystocia

English veterinary works, especially if compiled from the German or translated from that language, spell this word "dystokia" and not in the way adopted by English or even French medical writers.

I would like to draw attention to some forms of fœtal dystocia both in the cat and bitch. When one forelimb is presented and the head and neck are in one horn, the abdomen, back and hind quarters being in the other horn and the shoulders lying across the so-called fundus between the two horns, the fœtus should be manipulated with one hand *via* the external abdominal walls, and with the forefinger of the other through the vagina, until it is drawn back into the horn in which the hinder parts lie and the nose is presented. The finger of the left hand should then be passed into the mouth and a long button-hook manipulated with the other hand until the hook-end is pressed between the rami of the lower jaw; gentle traction is used every time the bitch strains, when the pup, after a short space of time, is expelled without any further difficulty. Should the bitch be bulky or the intra-abdominal pressure be such that the misplaced pup could not be manipulated into a correct position, the bitch should be anæsthetised with chloroform.

The common positions are: the head turned backwards towards the shoulder or towards the breast between the forelimbs so that the nap of the head is presented, or the fœtus lying on its back with the head towards the breast. These, when put into a proper position by manipulation, may be seized with forceps, or (what is usually sufficient) a grip is made between the rami of the lower jaw with the button-hook when the forefinger is in the mouth. If the traction is gentle and not forcible the fœtus usually comes away without breaking or tearing its jaw.

Here are exhibited two pairs of forceps, one for use in taking away an unmutilated fœtus and the other for a fœtus that has been broken. They are light and rather narrow bladed and besides being suitable for the smallest bitch and cat they can also be utilised for the larger breeds. The button-hook, you can see, is a long one with a small or fine hook. My experience is that canine and feline obstetrics is mainly a skilful and not a very forcible or mutilative operation. Patience and care are especially necessary.

I do not believe in uterine irrigation unless the pup or kitten has been broken and long retained, and then melted vaseline or liquid paraffin, allowed to fall into the uterus when the body is inverted, gives the best results by acting mechanically.

Irrigation may be necessary in bringing away placentulæ that have been too long retained. When the uterus has been filled with a mild warm solution (chinosol 1-1,250) the bitch should have her forepart of the body raised while the uterus is manipulated between the two hands, working downwards *via* the external abdominal walls. It may be necessary to repeat this several times before the retained placentula or placentulæ are evacuated.

Sarcoptic Scabies

There are two forms of sarcoptic mange in the dog respectively due to two distinct species of acari—a sarcopt and a notoedre. This latter is the one that also accounts for the mange of the cat. In the dog they are readily cured by the ancient oily methods of treatment which are, in my experience, more reliable than the modern methods. Oil of tar and oil of sassafras should not be used in skin dressings for dogs, cats, rabbits and birds as, to my knowledge, they have caused numerous deaths. Oil of tar

in skin dressings for horses is not without danger, especially when applied to the whole surface of the body. I never wash dogs before or during treatment of mange, sarcoptic or follicular: in my experience better and quicker results are obtained by not washing.

Follicular Mange

This is as much a nutritional as a microbial or parasitic disease. In my experience it is not a contagious disease that is transmitted directly from one dog to another. I have seen healthy parents have puppies that after three months of age have been distributed to various places, develop the disease: also a bitch severely affected with the pustular form suckling pups that did not develop it. I am certain that washing in this disease makes it worse and converts mildly manifested forms into the severer pustular forms. Those not washed stand a better chance of recovery. The pustular form is benefited by vaccination or the repeated application of a 10 per cent. solution of chloride of zinc after the ripe pustules have been opened. Biweekly inunctions of the compound ointment of storax, zinc oxid., sulphur and salicylic in equal parts of lard, lanolin and vaseline are of service. This dressing, besides being antiparasitic, disinfecting and soothing, brings about exfoliation or desquamation of the damaged cuticle and leaves the skin clear of eruption or thickening. The animals should be fed on raw meat in lumps, raw bones, fat and a small quantity of crude cod-liver-oil. Repeated hypodermic injections of cacodylate of sodium, sodium stovarsol or neosalvarsan are invaluable in this disease. The treatment should be continued until the animal is cured and the dressings give best results when applied to the whole body. The growing coat should be clipped from time to time. Do not wash until some time after the animal has been cured.

Interdigital Abscess

In a former paper entitled "Some Surgical Conditions Encountered in Canine Practice," which I read to the Central Veterinary Society on April 5th, 1917, and which appeared in the *Veterinary Record*, Vol. xxix, No. 1503, April 28th, 1917, pp. ,447-452, I drew attention to the fact that some people persisted in calling this malady interdigital cyst, but it seems that no notice was taken of my remarks as the condition is still called interdigital cyst. To my mind it has all the characteristics of an abscess and none of those of a cyst. It is true that I showed that the pus was nearly always hæmorrhagic, as it is in 95 per cent. of abscesses or pus in the dog and cat, and that if it was diluted with saline solution and injected under the skin of an affected dog it did not produce suppuration. I think since that time Sir John M'Fadyean has shown the material, before the skin has burst, to be sterile.

Although interdigital abscess may occur in the feet of any breed it is mostly seen in those dogs that have thick coarse and long hairy interdigital webs or spaces and more especially those with turned out or splayed feet such as have the Sealyham, Scottie, bulldog or spaniel. It may confine itself to one or both fore feet but it is not unusual to see it in all four feet at the same time. It may occur in one or more interdigital spaces or may leave one space to attack another or several others. It is generally recurrent but in some animals after prolonged treatment, especially with autogenous vaccines, it may finally disappear. I have seen it recur in a spaniel for a year and after vaccination with the anti-staphylococcal vaccine prepared for human use it eventually did not appear again. All systems of treatment give temporary relief but not many can be claimed to be curative. Injections of strong tincture of iodine into the abscess cavity or slitting open the abscess, cutting away a piece of the loose skin and cauterization of the lining give some benefit. As to the rounded bodies of cheesy pus about the size of a hemp-seed, they are the result of repeated abscesses that have not been opened thoroughly and the interior cauterized. They are not the cause but the effect of the disease. Some dogs develop anal abscesses at the same time as they do interdigital abscesses and their contents are similar in appearance and consistency. Other dogs, especially light-coloured spaniels, are liable to a seborrhœic canker or a blepharitis or both. As to the cause of the condition I am ignorant.

Sometimes the tissues between the two layers of the dependant part of the interdigital web become under-run with pus, but there is rarely involvement of the plantar surface of the skin in the morbid process, which should not be confounded with interdigital, digital, plantar and peridigital eczema nor with the ascending and recurrent abscesses or fistulæ due to awns of barley grass or other foreign bodies. On no account should feet affected with these abscesses or even eczema be fomented or poulticed, otherwise general inflammatory swelling and pus formation would be almost sure to supervene.

Luxation of the Lens

This has frequently been brought to my notice. Ninety-five per cent. of the cases have been in both eyes. Although seen in nearly every breed, it mostly occurs in fox-terriers, Sealyhams and spaniels. The disturbance of sight is said to appear suddenly but it is rarely brought to one's notice until some inflammatory condition or opacity of the cornea sets in. In a few instances it has occurred in more than one member of the same litter. Probably there

is congenital subluxation until, later on in life, it has become converted by some means or other into a complete luxation. In most of the cases the luxated lens floats to and fro the anterior and posterior chambers. Before there is an opacity of the cornea the anterior chamber seems deep, due to the iris falling back into the posterior chamber in consequence of losing its former posterior support of the anterior face of the lens. Friction of the posterior surface of the cornea leads to inflammation and subsequent opacity, the latter in the early stages being confined to the inferior two-thirds. There is at first increased tension which may in some cases (mostly in only one eye) become distended to a great degree, causing what is termed hydrophthalmos or buphthalmos or ox-eye, which is sometimes denominated the glaucoma of the child, which differs from glaucoma in the adult because, although there is hypertension, there is no distension or enlargement of the eyeball.

When there is prolonged hypertension and ultimate hyperdistension the sight becomes permanently lost. Not infrequently the hyperdistension or hydrophthalmos disappears spontaneously—that is, without any treatment. The luxated lens may be found in the anterior chamber, or fixed full faced or edge-ways in the pupillary opening or lying down in the posterior chamber. Above the upper edge the *tapetum lucidum* with overlying blood vessels can easily or distinctly be seen as well as the upper margin of the lens below the visible part of the tapetum. When the cornea is opaque the mobile lens may be seen wobbling in the aqueous humour when the head is lowered, raised or moved. When the density of the opacity is only slightly opalescent one can sometimes see what appears as an opaque lens passing to-and-fro the pupillary opening when the head is moved. Another sign of the total luxation is iridodonesis, or trembling of the iris.

If the lens were to remain in the posterior chamber, as it generally does in the horse and other herbivora, there would not be any structural disturbance of the interior of the eyeball, but in the dog it is generally on the wander, setting up friction like any other mobile foreign body, which it has become. I have repeatedly removed the lens, but in my hands so far it has always been followed by shrinking of the eyeball and a diminished but opaque cornea. On no account should mydriatics such as atropine be used, as by dilating the pupil it would favour the movement of the lens and the irritation arising from it. Miotics such as eserine are called for to contract the pupil and to reduce hypertension. Care should be taken that the lens is kept in the posterior chamber behind the iris. Neither mydriatics nor miotics have any influence on the normal tension of the eyeball, only where there is increased tension.

The histological study of hydrophthalmos shows that the changes in the structure of the eyeball resemble those found in true glaucoma.

Bony Impaction of the Rectum

This condition—large masses or concretions of bony material collecting in the rectum and colon—may be easily overcome by filling the bowel with water and breaking up the lumps with a pair of narrow bitch forceps such as I have shown. The flushings or injections may have to be repeated until all the material has been broken up and brought away. I have never yet had occasion to open the abdomen. It occasionally recurs. If dogs were allowed free exercise, especially after a meal, they would not be troubled with this complaint. Constipation in dogs due to distended anal glands as the result of lack of bone in their dietary may be overcome by clearing out the accumulated contents of the gland cavity and prevented by giving bone.

Recurrent Constipation in the Cat

Some cats are liable to have an accumulation of fæces in the colon and rectum. The lumps become dry or tough and too much enlarged, so that they have to be broken down before they are capable of being evacuated. In one case in an apparently healthy cat I had to take away the fæces every five or six weeks for at least 18 months, when it was thought advisable to destroy the animal.

The rectum and colon are filled with water and the bowels manipulated through the abdominal walls in order to macerate the accumulated fæces and break them down so that they may be taken away with the forceps shown. The injections and manipulations should be carried out until relief is obtained. It is useless to expect any good results from aperients in fæcal obstruction: at least that has been my experience.

Spicules of Bone on or between the Teeth and Thin Plates of Fish Bone on the Crown of the True Molar Tooth

These sometimes occasion a great deal of disturbance and not rarely create curious symptoms leading the observer to suppose that the animal is suffering from a peculiar nervous disease.

In a dog said to be suffering from peculiar nervous disease of the pharynx or œsophagus and sent a 600-mile journey for my inspection. I came to the conclusion that the cause was some foreign body on or between the teeth. After a prolonged examination of the mouth without discovering anything I began to believe that I was mistaken in my supposition, but on a re-examination in a good northern light I observed a thin, shining or glittering body on the crown

of the upper (true) molar. It turned out to be a very thin piece of fish bone, as thin as, if not thinner than, tissue paper. After its removal there was no renewal of the peculiar symptoms.

Long experience teaches one to suspect and in consequence one looks for that which he suspects. Wisdom is the outcome of experience, but experience is fallacious and judgment difficult.

Nervous Complications of Distemper

These may be averted, overcome or mitigated with intramuscular, subcutaneous or intravascular injections of stovarsol sodium or by stovarsol tablets *per os*.

When there is a secondary rise of temperature the injections should be given to avert the trouble, which may sometimes not manifest itself before two or three or even more months after an apparent recovery from the original malady, which usually takes five or six weeks to run its course. In many respects the remote effects of distemper resemble those of syphilis and other infectious maladies.

Rest, continual confinement in a warm, dry and draughtless place and suitable food for five or six weeks give better results than any other forms of treatment.

Paraplegia of Spinal Neuritis, Myelitis or Pachymeningitis*

These frequent occurrences in the short-legged, long-backed breeds, such as the dachshund and pekingese, are overcome in 95 per cent. of instances by patience and abstaining from heroic methods of treatment.

Strychnine in the earlier stages, if not positively dangerous, renders probably curable cases incurable. Leave them alone as much as possible and Nature will do the rest. Pharmacological action differs from therapeutical effect.

The preceding neuritic hyperæsthesia may be checked or overcome with capsules of colchicine and methyl salicylate or aspirin or other analgesics.

Most cases recover within one to three weeks. Obstinate cases of later date may receive injections of cacodylate of sodium or sodium stovarsol. Cases of three or four months' standing with no movement in the hind limbs should begin to make one doubt a recovery. Ascending paralysis with ultimate loss of voice usually ends in death or leads to destruction.

As Hippocrates said nearly 2,500 years ago, Nature is the best physician. Homœopathy and the Dosimetry system of Dr. Barrgraeve are of inestimable value in small animal practice.

Periodicity of Variation of Disease

Blaine and Youatt more than a century ago and others since, pointed this out in respect to distemper. During some periods the catarrhal, at other periods the broncho-pneumonic, and at still others the gastro-enteric, later on the nervous and still later the eruptive form prevails. In the same way benignicity or malignancy prevailed at various epochs. More than a century ago Youatt stated that by crossing hounds very susceptible to disease with fresh blood or strains resistance to it was increased.

This periodicity is not peculiar to diseases of animals or plants; it is witnessed in migrations or irruptions of birds or plagues of mice, lice, insects, other forms of animal or vegetable life, also of crime, etc. It is an old saying " there is nothing new under the sun."

The Remote Effects of Disease

Some 30 years ago I pointed out this phenomenon, which is witnessed in many infectious and nutritional complaints. Chorea, meningitis, myelitis, chronic interstitial nephritis, cirrhosis of the liver, vegetations on the walls of the heart, etc., may put in appearance several or many months after an attack, especially a mild one of distemper or other infection. We veterinarians have a better opportunity of studying disease clinically from birth of the animal to old age than medical men, none of whom as yet has lived long enough to study a man from birth to old age, whereas we can study several generations of animals, especially cats, dogs, rabbits, poultry, etc. besides which we have the greater opportunity of making *post-mortem* examinations after natural death or by killing.

Chronic, Recurrent or Persistent Diarrhœa following Distemper

I have had many cases of persistent diarrhœa of from several to 18 months or two years' duration following distemper. In most cases the animals have appeared to be in good condition. The usual astringent or antiseptic treatment has not given any permanent benefit to such cases, which have ultimately responded to a subcutaneous injection of 10 c.c. of Parke, Davis & Co.'s Calf White Scour Serum. A second dose has not been deemed necessary. I have used the same dose for a small fox-terrier as for an Airedale or great Dane.

Two years after stopping diarrhœa a fox-terrier developed cerebral meningo-myelitis with well-marked symptoms and histological lesions. During the interval from stopping the diarrhœa to the time of manifesting signs of the brain trouble the animal showed all the signs of perfect health.

Worms

The usual tape and round worms we encounter in cats and dogs in this country do not occasion any inconvenience unless in the case of round-

*See paper on " Chronic Ossifying Spinal Pachymeningitis by H. Gray in *Veterinary Record*, July 16th, 1904; also Hoare's System, vol. ii, pp. 1261-1264.

worms in suckling puppies or kittens not suitably fed. All dogs and cats have worms more or less and animals in the best condition seem to have the most. I have counted over one thousand species of *Tænia elliptica*, several *Tænia crassicollis* and many *Ascaris mystax* in a cat in the pink of condition and very fat. The first-named tapeworm was adherent to the mucous membrane from the pylorus to the anus! No animal in Nature is without worms. Examine the frog, for one, and find how often it is free from roundworms.

When an animal falls ill from distemper, infectious enteritis or other contagious disease, worms are often passed spontaneously as they cannot always live in a diseased habitat and then the disease is too frequently put down to "worms."

Worms, when they have run their cycle in the intestine usually come away spontaneously and the animals are then often dosed for worms when the worms have already left.

More animals when suffering from contagious diseases and dosed for worms are killed by the medicine than the worms would have destroyed.

If puppies and kittens were fed on raw meat and bones the worms would leave them because such a dietary is unsuitable for ascarides. Milk is their natural dietary.

On *post-mortem* examination of dogs I have often pulled a large ascarid out of the bile duct. There has been no jaundice, as is so often imagined to result from such. Tying the bile duct does not induce jaundice nor does catarrh or swelling of the bile duct.

Infectious Enteritis in the Cat

This specific malady peculiar to the cat has been known and studied in most countries but this. It occurred in India over 50 years ago, when it was described as Asiatic cholera in cats. I have encountered it as an enzoötic from time to time and written upon it in the *Veterinary News* and in many periodicals devoted to cats, and in Vol. I of Hoare's System of Veterinary Medicine, 1912. During the period 1919-22, it must have destroyed at least a million kittens in this country alone. It spread from town to town, from village to village until most places in the British Isles had been invaded. It was put down to poison, but I would like to know what poison taken spontaneously by a cat would do it harm? I know of none.

The disease usually ran its course in 24 to 48 hours, killing 90 to 95 per cent. of those attacked. If they survived the fourth day there was hope of their recovery. It generally attacked kittens three or four months old, and although it might be occasionally witnessed in young cats eight or nine months old it rarely occurred in adult animals.

It was characterised by repeated bile-tinted watery vomit, great depression, a pinched painful facial expression and a peculiar cry, especially when the abdomen was manipulated. Diarrhœa was rarely observed: if it did occur it was a hopeful sign. The condition was very contagious and the contagion clung to a place: time after time a freshly introduced kitten would succumb to it—I have known as many as a dozen dying in this manner. Kittens often chose wet cold places to lie in. Most of them died in a state of coma. If the tongue became sore with a vesicular eruption it was a good sign because it was an indication that the animal, having lived long enough for this to occur, might recover.

On *post-mortem* examination the mucous membrane of the jejunum was the seat of a more or less intense inflammation occasionally accompanied by shreds of fibrinous false membrane in the lumen of the bowel. On inspection of the bowel as a whole the peritoneal surface had a discolouration varying from pink to a more or less deep red. This contrasted with the normal pale colour of the unaffected portion—duodenal or ileal. Sometimes the ileum was also involved.

The disease was for a long time attributed to infection by a micro-organism of the paratyphoid B. group, but in 1928 Verge and Christoforoni, of the Alfort Veterinary School, asserted that the virus passed through the Berkefeld and Chamberland filters and that the period of incubation varied from seven to 14 days. It was inoculable as well as being capable of being transmitted *per os*. They considered that the virus favoured the development in the intestine of the B. paratyphoid bacilli and in this respect it resembled that of distemper, typhus, swine fever and fowl-pox.

Enzoötics are often cropping up, especially during mild weather and after shows. Newly-purchased animals or those going to and coming from stud introduce infectious enteritis. It is usually seen during mild or wet weather, rarely when there is a hot dry summer or an intensely cold winter.

The treatment usually adopted was the administration of B. naphthol, bismuth subnitrate and charcoal in powder or tablet form, dimol pulverettes, glycerin of iodine and subcutaneously or rectally saline solution. But, as a rule, the disease had gone too far before any treatment was prescribed or had run such a rapid course that such, or any, treatment was hopeless.

The disease is not communicable to any species other than the cat. It differs from the enteric form of feline distemper in which there is a persistent and prolonged diarrhœa and in which other symptoms, not encountered in infectious enteritis, are exhibited.

Phosphorus, Yew, Petrol, etc. Poisoning in Birds

Phosphorus poisoning is frequent in chickens, turkeys, geese and ducks. I have never detected by smell or sight the poison in the crop in those birds that possess such, or in the proventriculus, but only in the gizzard. I am, therefore, of opinion that its poisonous effects do not take place until the poison reaches the duodenum or other parts of the intestine from which it becomes absorbed into the system.

Yew poisoning is frequent in pheasants. Here again its poisonous effects are not observed until it has reached the small intestine after being triturated in the gizzard. Very few yew leaves are found in the crop to give a clue.

Petrol and other poisons having an odour are only detected in the gizzard.

In sheep dip poisoning in the duck the alliaceous odour of the arsenic, however faint, may be detected in the gizzard, not in any part of the alimentary canal anterior to this organ. A large number of shot are sometimes found free in the gizzard of the duck: probably they do no harm.

Discussion

The Chairman (Major G. W. Dunkin) observed that the members of the Royal Counties Division had been privileged to listen to a perfect mine of information from their friend Mr. Gray, culled as it was from long years of experience and representing, as it did, the results of acute observation.

He was going to ask Captain Little to open the discussion.

Captain W. L. Little expressed ignorance of the reason why the President had asked him to open the discussion, for he did not claim to be a canine expert; at the same time, it was a request with which it gave him great pleasure to comply.

He must say that they were very fortunate indeed in having a man of Mr. Gray's experience to take the trouble he had done in coming there that day and giving them a discourse such as they had been privileged to hear. (Applause.)

He was very pleased to hear Mr. Gray say that chloroform was the safest anæsthetic to use in cats and dogs: he himself had always been quite satisfied with this agent in small animal anæsthesia and so had not had much experience of the use of others. The speaker, however, did not follow Mr. Gray's lead in the matter of chloroform masks: he did not use a jam jar or a tin, but had to confess that he had not been so careful as Mr. Gray in the matter of sterilisation and employed the Hobday muzzle which, because of the leather and canvas, presumably could not be sterilised. When he was a student they did try using the bellows which Hobday provided with his muzzle: they would pump for hours and never get any result—therefore he had now discarded the bellows and contented himself with the use of a cotton-wool pledget, soaked in chloroform, inserted into the base of the muzzle. Here again he was glad to have Mr. Gray's confirmation of the efficacy of the simple method.

There was no doubt as to the wisdom of Mr. Gray's advice concerning dystocia in the bitch: one must use common sense and especially avoid force. There was much in what he said about being able to rectify malposition of a puppy by manipulation: the mother would do the rest herself. At the same time, he thought that pituitrin was a great help, especially if inertia was supervening; but one must be sure that the fœtus was in the proper position.

With regard to oil of sassafras and oil of tar, the former he had never used, but he was glad to have Mr. Gray's opinion about it, because he was unaware that it was so fatal. He had used oil of tar, but had never had an accident—perhaps because he used it weak.

Mr. Gray objected to washing in follicular mange, and he thought Mr. Gray had said that that also applied to horses. He (Captain Little) was not in favour of repeated washings, but he thought that an initial wash in dealing with any skin disease was beneficial: there was usually a good deal of scurf and sebaceous matter which should be removed, and one had also to include in that category of deleterious material the previous dressings often so ill-advisedly used; in fact, he would go so far as to say that many of these dressings were frequently responsible for the dreadful state in which the subjects of skin disease were often brought to one. His treatment for all cases of skin disease was to give them a good wash in soapy material—but it must be a bland agent. After that one could not beat the old, time-honoured remedy, oil and sulphur; that should be left on for some little time, even as long as three weeks.

Mr. Gray mentioned the use of cacodylate of sodium; he (Captain Little) had not tried it in skin affections, but he did not see why it should not be a very useful agent.

The next thing mentioned was constipation in the dog, and he was somewhat amused by Mr. Gray's reference to what he termed bony constipation, because he remembered how stalwart a supporter Mr. Gray was of the doctrine of feeding bones to dogs. There could be no doubt that in dogs fed excessively on bones one met with a constipation caused by calcareous concretions which were exactly like cement. Which of the canine race required bones? The puppy, perhaps, but not the adult dog: an adult dog would, of course, eat a bone, because he liked the smell of meat—but so he would the piece of string with which the butcher bound the joint, or any other deleterious substance provided it smelt of meat. As a dog became older his digestion deteriorated, and eventually a failure to digest bones ensued, with the result that he fell a victim to "bony constipation." He agreed with Mr. Gray's treatment of the condition, and he himself used a pair of forceps to break down and remove the concretion.

Mr. Gray had said that distemper was a disease of long duration. Certainly convalescence after distemper was a very prolonged affair—he thought that none of them could say how long—and probably when the nervous symptoms were shown the animal had never really recovered from the disease.

Mr. Gray had said that enteritis in cats was incurable, and there was no doubt that it was a very difficult disease to treat successfully.

With regard to phosphorus poisoning in poultry, etc., he could support Mr. Gray's observations. He was not able to make a *post-mortem* examination of his last case of phosphorus poisoning in poultry, until night-time. When he opened the crop there was nothing unusual, but on opening the gizzard he thought he could smell phosphorus, and on putting out the light he could see the phosphorescent glow of the gizzard contents.

He had no idea, until Mr. Gray mentioned it, that pheasants were likely to die from yew

poisoning. That was a very interesting and useful item of information, because if pheasants died from yew poisoning, why should not other birds? His experience of yew poisoning in cattle was that the animal did not show symptoms until it began to chew the cud: the same thing applied with other poisons, such as laurel. After they had chewed the cud they became ill, but gradually the symptoms waned, only to be renewed when chewing of the cud recommenced, and if they had eaten much yew that went on until ultimately the cattle died.

He did not like to contradict Mr. Gray when he spoke of interdigital abscess. He had, in a good many instances, opened these swellings before they had ruptured, taken swabs, and tried to get a vaccine made, but on more than one occasion the pathologist had told him that his swab was sterile. If the contents of the swelling were sterile, could it be an abscess in the true sense of the word?

Mr. Gray had said that nowadays it seemed that all disease was attributed to calcium deficiency; as a matter of fact, there was no doubt whatsoever that some diseases were due to it. He certainly thought that puppy fits were due to a lack of calcium: they were much more of the nature of convulsions than of fits. In these cases he had had good results by the administration of colloidal calcium, while if the animal's food were corrected the fits would cease altogether.

Mr. J. A. Craft congratulated Mr. Gray on the concise and informative manner in which he had related his experiences in canine practice, but observed that he was fortunate in the absence from the meeting of any veterinary instrument makers, for he was afraid that Mr. Gray would have got into serious trouble with regard to the chloroform apparatus he had exhibited to them that afternoon. (Laughter.) He would say at once, however, that his own chloroform apparatus approximated to that used and shown by Mr. Gray, and he thought that it could not be surpassed in efficiency by any of the beautiful and impressive inhalers on the market.

With regard to the calcium deficiency theory, did Mr. Gray think that calcium treatment would be efficacious in dealing with interdigital cysts in dogs?

Major Hamilton Kirk congratulated Mr. Gray upon his very interesting and varied paper. He quite agreed with the assertion that chloroform was the best anæsthetic one could use for dogs and cats. He had used avertin for some time, but he had one or two fatalities, and had published the results of his experience in the veterinary press. Paraldehyde and hyoscin he had also tried, as they were commonly employed in human practice, but he could not even induce mild narcosis with these agents. Syrup of chloral in a gum mucilage was a very good deep narcotic for cats injected per rectum.

He understood Mr. Gray to say that intussusception of the bowel was always associated with distemper. [Mr. Gray: "I meant intussusception with prolapse of the rectum; not simple intussusception of the bowel.] He (Major Kirk) thought that Mr. Gray had meant simple intussusception, and he was about to say that he had met with the condition, only a week previously, in a 13-year-old chow.

As regarded adrenalin, Mr. Gray had suggested that it should be injected into the sub-mucous coat of the bowel. He had always been given to understand that, if injected in that way, adrenalin would produce a very bad slough. On that account he had never injected it.

They had to regard Mr. Gray as an authority on birds: he had seen a great deal of avian practice and had published a good deal concerning it.

He thought he agreed with Mr. Gray's statement that pituitrin was of little value in uterine inertia; he had come to the conclusion, after repeated trial, that in many cases little benefit was to be derived from its use.

Mr. Gray had recommended the use, in distocia, of a button-hook fixed to the lower jaw of the fœtus, but when he (Major Kirk) employed such an implement in that manner, the whole lower jaw broke away, and he preferred to get a grip of the whole head.

Mr. Gray had spoken of the danger of the use of oil of sassafras; had he ever used synthetic sassafras? He himself had employed it, and with no ill effects. [Mr. Gray: "I have not used synthetic sassafras."]

Proceeding, Major Kirk enquired if Mr. Gray could give them a permanent cure for follicular mange. Odylen would effect an apparent cure, lasting from three to six months, but there was nearly always a recurrence.

Mr. Gray had told them that the nervous complications in distemper could be averted by injecting cacodylate of soda. The speaker had not used it, but he was more than glad to know that the nervous complications could be averted: he had employed nearly every agent in the pharmacopædia in the endeavour to achieve that end, but to no purpose.

In Mr. Gray's opinion, the supposed value of the use of strychnine for paralysis was "moonshine." Of course no one would use strychnine in a case of neuritis, but he (Major Kirk) maintained that no drug existed which had a greater specific stimulating effect upon a functionless spinal cord, and given in minute and sustained medicinal doses, he still thought it the most valuable drug for use against paralysis.

In regard to infectious enteritis of cats, Mr. Gray was doubtless correct in his assertion that there was no known cure, but it had been accidentally found that if cats were inoculated with Parke, Davis and Co.'s Hæmorrhagic Septicæmia Bacterin before they went to shows, they failed to exhibit symptoms of contagious feline enteritis. These findings were published in *Fur and Feather*, and he accordingly secured some of the bacterin, but he could not prevent the disease with it, and really failed to see the connection between hæmorrhagic septicæmia of cattle and enteritis of cats.

As far as he could understand it, the cause of interdigital cysts in dogs was the entry of a foreign body through the solar surface. His treatment was complete excision, removing sufficient tissue to prevent rapid healing. Drainage was made through the sole, and all surfaces were cauterized. He then laid a swab of wool, soaked in Staniform lotion, between the adjacent toes, bandaged the foot and did not touch it again for two days.

That would usually prevent the recurrence of the cysts in the same position, but not elsewhere, and it was his experience that there was no cure for interdigital cysts.

The Hon. Secretary (Mr. H. Bell) expressed his thanks to Mr. Gray for his instructive paper, which must be of interest to any practical man. (Hear, hear.)

He desired to ask Mr. Gray how long one was justified in persevering with a case of pachymeningitis, where there was paralysis of the hind limbs: the longest time he had kept one going, which had recovered, was from eight to nine weeks.

With regard to the use of pituitrin, he had had some good results. He had certainly given a

bitch a dose of pituitrin and sat down and watched for labour to commence, and labour pains had usually come on in twenty minutes or so. His most difficult whelping cases had been in Sealyhams, in which rectifying the position of a puppy appeared to be out of the question, because he had only just been able to touch it with the tip of the finger and nothing more. In one or two cases, after leaving them for a long time, he had resorted to ovaro-hysterectomy.

Concerning some of the complications following distemper, the only form associated with the nervous type of distemper which had responded to treatment—or at least recovered in his kennels, was inco-ordination of movement. He did not know whether that was due to a particular drug he used, and which was apparently of great service in this condition, or whether, if he left them alone, the animals would get better: the preparation to which he had referred was a proprietary one and he did not propose to disclose its name there, possibly for non-veterinarians to read in the *Record*.

Interdigital cysts or abscesses constituted one of the most heart-breaking conditions with which they had to deal. Although all seemed similar, he thought that not all of them could be due to the same cause: some would respond to a particular course of treatment which would leave others untouched—*e.g.*, he had treated a dog which was a perfect martyr to the cysts with tin oxide, with very good results, yet on 30 or 40 other dogs it had yielded no result at all. He was inclined to agree with Mr. Gray that the lesion was an abscess and not a cyst, because they often removed the awns of wild barley grass from dogs' feet and the lesion it set up, in some cases, was exactly like this so-called cyst, the orifice of the fistula not being apparent.

He thought no one had yet devised forceps that would hold on to a canine tooth [Mr. Gray: "Do not pull; you must use leverage."]

Proceeding, Mr. Bell said that he desired to ask Mr. Gray if he thought that one was justified in bringing cases of follicular mange into ordinary kennels. They had cured many cases of follicular mange by using that old preparation of Williams—oil, creosote and liq. potass.

Finally, he would like to say that he was very interested in Mr. Gray's observation, in regard to distemper, that he would not let affected dogs out of his place within six weeks. For his (the speaker's) part, he would not let a distemper case come near his place.

Mr. J. R. Hewer enquired if Mr. Gray could tell them how to prevent anal gland trouble in dogs: it was recurrent in some old animals.

Mr. Gray had said that paralysed dogs did not generally get right if they were irrationally fed: did he recommend any special diet?

Captain H. B. Coller expressed particular interest in Mr. Gray's remarks with regard to chloroform anæsthesia. He had employed the method of passing air through a chloroform bottle, and it had not been too satisfactory; but he had noticed that when he had given morphine as a preliminary to putting dogs to sleep with chloroform, the anæsthetic stage had been most satisfactory.

The President (Major G. W. Dunkin) observed that he would like to comment on one or two points raised by Mr. Gray. The first point was the question of anæsthesia He liked Mr. Gray's method, and at Mill Hill they used an ordinary tobacco tin, and except that the bottom was removed and replaced with double layer gauze containing cotton wool, the method was the same as that recommended by Mr. Gray. The main difference in the two methods was that there was a more complete passage of air and this, he thought, was an advantage. This was a very safe and simple method; so much so, that they found that they could, after the early stages had passed, leave the completion of the anæsthesia to their laboratory assistants, who required practically no supervision in its performance. When the dog was apparently under they removed the tin and carried on the anæsthesia by passing air through a mixture of equal quantities of ether and chloroform.

He wanted to support what Mr. Gray had said with regard to the occurrence of intussusception and prolapse in animals which had distemper. He thought that Mr. Gray had said that 95 per cent. or more of dogs that had this condition were suffering from distemper. He (Major Dunkin) was not in a position to say what percentage of dogs so affected had distemper, but his experience bore out the observations of Mr. Gray on the point.

He was sorry that Mr. Gray did not mention keratitis, because he had suffered, when in practice, from making errors in diagnosis in that connection. He believed that keratitis was very commonly associated with distemper; in fact, it would not be surprising if the virus took some direct part in its causation.

He was interested, of course, in what Mr. Gray had said in regard to his conviction that the nervous form of distemper could be prevented. He always read, and listened to, what Mr. Gray had to say with a great deal of attention, because he knew that it was backed up with very considerable experience and careful observation, but he was not quite sure about preventing the nervous form of distemper by means of any medicinal treatment. As he conceived the condition, it was an invasion of the central nervous system by the virus of dog distemper: that was the natural course taken by the virus—and if one were successful in preventing the nervous form of distemper by means of the use of certain drugs, it seemed to him that it should be equally easy to prevent the systemic affection by the same means. Certain it was that the central nervous system of a dog which was suffering from pure virus distemper would yield material from which, by passage through susceptible animals, the virus could be recovered. The point was of interest and, he thought, of great importance, because of the theories which had been recently propounded by various people as to what was actually meant by active and durable immunity in virus diseases. They did not know to what that immunity was due, but the consensus of opinion seemed to be (he thought with some reason) that that active and durable immunity to virus diseases was due to the persistence of the virus in the cells of the body, so making an immune animal a perpetual carrier of the disease. If that were true, Mr. Gray's suggestion, that the nervous symptoms in distemper caused by the virus might follow several weeks or months after an attack of the disease, was not unreasonable but, he thought, improbable; but if that theory were not capable of acceptance, then Mr. Gray's suggestion was quite wrong.

In common with the rest of the members of the Society, he was deeply grateful to Mr. Gray for taking the trouble to come there and give them the benefit of his vast experience. (Applause.)

The Reply

Mr. Henry Gray first thanked the meeting most heartily for the manner in which his address had been received and discussed.

He was sorry that Captain Little had left,

because he wanted to emphasise the fact that the muzzle he had exhibited could be sterilised with no trouble, and it was most important that this should be done, especially in connection with the anæsthetisation of cats.

Major Kirk would agree with him that pituitrin was of no use whatever in absolute uterine inertia.

His experience of washing in follicular mange had been most disastrous; moreover, it was of no service in the other forms, and it was always liable to chill the animal. The salicylic acid in the ointment would clean the skin, as it acted as a discutient; it also destroyed the pus organisms and allowed the storax to penetrate. He might say that he never regarded follicular mange as contagious: he had never yet seen a case of follicular mange spread to other animals in a fresh kennel.

Arsenic had a very beneficial effect on the system, and cacodylate of soda, like neosalvarsan, had an injurious effect on the lower forms of animal life, and this was of service in overcoming the parasite. If they bought the cacodylate of soda in the powdered form it would last for years, as they could make it up, and that very cheaply, with distilled water.

Captain Little had enlarged on his reference to tar. He (Mr. Gray) had had fatalities with tar not only in the dog but in the horse, although he was very careful with it. Then Captain Little had talked about lack of calcium: one had all the calcium and phosphorus one required for animals in bones, and they were their natural food. He would feed a puppy, just weaned, once in 24 hours on raw meat and bones and have the best of results. It gave them courage and strength, prevented rickets and rendered worms harmless if they did not expel them. Where people fed dogs on soft food, 100 per cent. of these animals had pyorrhœa when they reached middle life. He was sorry to think that veterinary surgeons advocated that namby-pamby system of feeding: puppies should be fed with pork or lamb bones. In the Mayo Institute, U.S.A., it had been found that minced-up meat passed through a dog's system too quickly, but when raw meat was swallowed in lumps it remained a long time in the stomach and the dog did not require so much food. That was the proper method of feeding meat to dogs.

He was very interested in Captain Little's remarks about yew poisoning in cattle. Yew would, as they knew, kill a horse in from 12 to 18 hours, and the animal's stomach would be excoriated by the toxic principle of the plant. Reasoning by analogy, therefore, the digestive system of cattle was on a par with that of birds.

Proceeding, Mr. Gray asked "What are fits?" He had studied the work of Brown-Sequard, Hughlings Jackson and other authors on that question and he would assert that they must differentiate ordinary convulsions and hysteria of puppies from the epileptiform convulsions of distemper. Of course true epilepsy was not so common in dogs; it occurred chiefly in adults or the aged, but it did occur and there was no cure for it—it would go on periodically all through life: that was a different disease from the convulsions one got in puppies. Then there were the reflex convulsions as seen set up by irritation of the skin, especially in the cat.

Mr. Craft he would ask "What is skill; what is art?" Both were represented by the attainment of the best results with the least expenditure of time, money and energy.

In regard to his other point, puppies fed on raw bones and raw meat did not develop rickets.

Replying to Major Kirk, he had used chloral, but it was too risky or dangerous, and cats varied so much in their susceptibility to it; he had even used it intraperitoneally, but he found it risky. The way in which Major Kirk could use adrenalin and cocaine effectually in prolapse of the rectum or of the anal mucous membrane was to inject it into the sub-mucous membrane: at the most he might get a little bead in the mucous membrane some weeks after. This could be pricked to allow its contents to escape.

In regard to recurrence in interdigital abscess, he would say that the majority of such conditions were probably due to malnutrition due to insufficient free exercise and lack of raw meat and raw bones.

In answer to Captain Bell, his experience was that in any case of paralysis that was not better in two or three months it was generally of no use to continue unless the owner wished it. He had seen dogs which were paralysed after having been run over at the hind quarters, recover perfectly in three or four weeks. The worst feature of cases of paralysis in long-backed dogs was that the condition was likely to recur. Wasting of the hind quarters was usually a good sign, the opposite a bad one.

"What are therapeutics?" enquired Mr. Gray. That question was asked by an examiner of a student who replied: "The art of amusing the patient the time nature is curing the ailment." (Laughter.) But it was the young men who had no patience, and the old men were right in their exercise of that supreme virtue. *Experientia docet.*

Captain Bell had referred to the foot lesions caused by barley grass awns. They caused fistulæ which were quite different from interdigital abscesses, and they were not confined to the areas between the toes, but gradually spread up the limb.

With regard to the use of tooth forceps, to extract a broken canine tooth, his instrument (exhibited) was adequate to hold a canine or any other tooth, but it must not be used with a pull—a side wrench was required in extraction of that tooth. The same applied to the reduction of a fracture; they must use leverage.

Concerning the taking into kennels of distemper cases, he had an excellent place (until recently) where he isolated his distemper cases. The space between the isolation premises and the remainder of the kennels was exceedingly small (about 10-ft. by 8-ft.), but no distemper was conveyed. The danger of distemper was its non-recognition.

He quite admitted that Major Dunkin's care in experimental research was justified, but he himself had passed from the examination of a case of distemper to that of another ailment, with merely a wash of the hands between, many a time, without trouble resulting. His (the speaker's) remarks were based on over 40 years' extensive experience and observation.

The trouble with perineal abscesses was that the condition was likely to recur, as were abscesses of the feet.

He had seen a whole kennel of puppies with prolapse and intussusception following distemper. He had also seen prolapse in the ferret, but it was very rare in the cat, in his experience. It was not rare in rabbits and poultry, but was associated with different maladies.

Concerning the vascular form of keratitis, if the ulcers were not too wide and were treated gently they were curable. If ulceration of the cornea lasted for a long time and the eye burst, the ulcers would heal at once; therefore he thought it was better to anticipate the wide, shallow or saucer-like ulcer perforating the eye by just pricking the ulcer after previously disinfecting it.

The Veterinary Record
January 2nd, 1932.

1932

The President and Mrs. Simpson send to all the members of The National Veterinary Medical Association of Great Britain and Ireland, and their families, sincerest good wishes for Health, Happiness and Prosperity in the New Year.

. . . . . .

"HOPE is a vigorous principle; it is furnished with light and heat to advise and execute; it sets the head and heart to work and animates a man to do his utmost. And thus, by perpetually pushing and assurance, it puts a difficulty out of countenance, and makes a seeming impossibility give way." (Jeremy Collier.)

It is with the above in mind that we must approach the year 1932. The year that has just passed cannot be looked back upon with feelings of delight. The veterinary profession has, in common with other professions, felt the effect of the financial situation of the country, both in a direct and an indirect manner, and has borne its losses as patriotically and as uncomplainingly as other sections of the community. Schemes that have been devised for the betterment of the health of the human and animal world have had to be shelved on the score of economy. The curtailment of grants to our research institutes must, of necessity, have placed a certain amount of restriction on their activities, which has not helped the advancement of veterinary knowledge.

The temporary suspension by the Government of the grant to the rebuilding of the Royal Veterinary College at Camden Town still leaves that institution a "propped-up" monument of the neglect and failure in the past of the English Nation, and incidentally their governments, to realise the value of veterinary education to the community at large.

But let us forget 1931 and imbued with **hope**, resolve that by working even harder than in the past, and by all pulling together, in whatever branch of the profession we belong—be it general practice, public health or research—we may help make the forthcoming year a better and brighter one than that which has passed—unlamented.

Despite the threatened passing of the horse, the field open to veterinary surgeons is as wide as ever, and it may safely be stated that there is less unemployment in the profession than at any time. The Royal Army Veterinary Corps is calling for suitable men, Colonial, County Council, and Municipal appointments are on the increase: this goes to prove that the M.R.C.V.S. is slowly but surely being recognised as an indispensable unit in the general well-being of the Nation. It is, therefore, in all sincerity that we express the hope that 1932 will prove a happy and prosperous one for all our readers.

"From the lowest depths, there is a path to the loftiest height."

("Sartor Resartus.")

Clinical and Case Reports

PRE-NATAL TUBERCULOSIS

Harold Burrow, m.r.c.v.s., d.v.s.m.,
Birkenhead

Cases of congenital tuberculosis in calves, discovered in the course of meat inspection or while making *post-mortem* examinations of casualties, are from time to time recorded, and are a by-no-means rare occurrence. Of 1,468 calves slaughtered in Birkenhead during the last 12 months and submitted to careful and *detailed* inspection, 12 (0·8 per cent.) were found to be affected with tuberculosis: six of these (0·4 per cent.) were affected with congenital tuberculosis as judged by the distribution of the lesions in the spleen, liver and kidneys. Records of cases of tuberculosis discovered in the unborn fœtus are more rare, not because they do not occur but because the carcasses of unborn calves are not dressed and inspected for human food and few people think of making *post-mortem* examinations of fœtuses found in the uteri of tuberculous cows slaughtered under the Tuberculosis Order or in other circumstances available for *post-mortem* examination.

One is therefore tempted to record the following case which affords conclusive evidence of transmission of tuberculosis from dam to offspring *via* a tuberculous uterine mucosa.

The dam was a white Shorthorn cow, approximately eight years old, which was served on March 5th, 1931. She was examined by me on November 5th, 1931, in the course of a general clinical examination of the dairy herd. The cow was noticed to be in only moderate condition and the owner volunteered the information that she was losing condition and had developed a chronic cough. A sample of sputum was obtained and on microscopical examination this was found to contain numerous tubercle bacilli. The cow was slaughtered on the following day in terms of the Tuberculosis Order, and *post-mortem* examination showed an acute tuberculous pleurisy and peritonitis and every organ of the body together with the associated lymph

gland was found badly affected with tuberculosis. On opening the gravid uterus (eight months pregnant) it was found that both the surface and substance of the lining mucosa was studded with tubercles varying in size from that of a match-head to that of a split-pea. The fœtal membranes, which appeared normal, were opened and a well-nourished heifer calf was removed. This calf was skinned and a careful *post-mortem* examination was made, when the following lesions of tuberculosis were found:—

Lungs.—One tubercle, about the size of a pin-head, was found in the substance of the right lung just underneath, and visible through, the pleura. Both bronchial glands showed tuberculous lesions commencing to calcify.

Liver.—On both surfaces of the liver tubercles varying in size from that of a pin-head to that of a split-pea were visible through the capsule. These lesions were situated in the substance of the liver itself and were 22 in number. The hepatic glands were much enlarged and full of tuberculous matter already commencing to calcify. The liver was not incised in order to search for foci in its depth, as the intact organ was intended for preservation as a specimen.

Spleen.—The spleen was finely sectioned and six tuberculous foci, each the size of a pin-head, were found deep in its substance.

Kidneys.—After a long and careful search one "pin-point" focus was found in the right kidney.

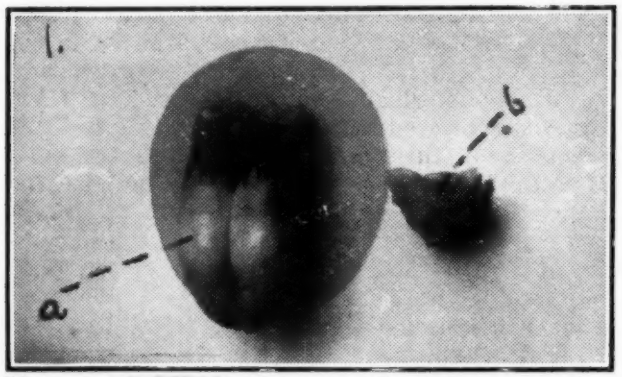

Plate 1.—Foot and incisor teeth of fœtus showing (*a*) fœtal condition of feet; (*b*) central incisors commencing eruption.

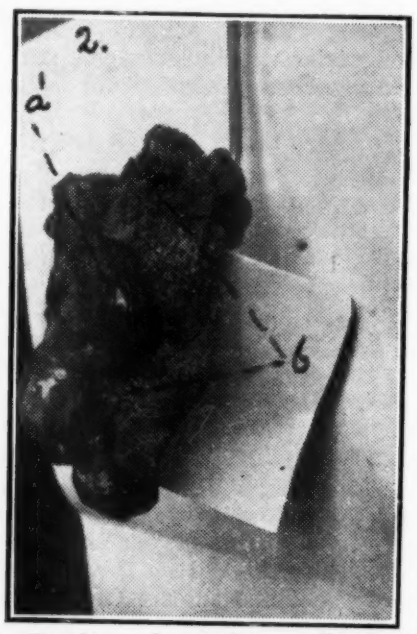

Plate 2.—Portion of uterine wall showing (*a*) cotyledons with portion of placenta attached; (*b*) uterine mucosa with tuberculous lesions.

Plate 3.—Anterior surface of fœtal liver showing (*a*) (a^1) tuberculous foci in liver substance.

Plate 4.—Posterior surface of fœtal liver showing (*a*) enlarged hepatic glands containing tuberculous lesions; (*b*) (b^1) tuberculous foci in liver substance.

Illustrating Major Kirk's Case.

Fœtal Udder.—The fœtal udder was carefully examined and appeared normal. The right supramammary gland, however, showed a distinct "pin-point" lesion. A smear was made from this lesion and stained by the Zeihl-Neelsen method, and under the oil-immersion lens eight definite acid-alcohol-fast beaded (tubercle) bacilli were found.

Carcass Lymph Glands.—Both internal iliac, one lumbar, the right prepectoral and the right presternal glands were found affected with tuberculosis, at an early stage of calcification.

Confirmation of the nature of the lesions was obtained by making stained smears from the hepatic and supramammary glands, in both of which tubercle bacilli were found on microscopical examination.

The three most interesting features of this case are:—

(1) That it shows the type and distribution of lesions in a purely congenital case of tuberculosis. In calves slaughtered after a few weeks' feeding the distribution of lesions is often complicated by secondary lesions arising from post-natal infection.

(2) That although the uterus and the fœtus itself were extensively affected with tuberculosis, yet the fœtus was well nourished and well developed in relation to the stage of the pregnancy (see the state of tooth development in the accompanying photograph).

(3) That tuberculosis of the supramammary glands can develop even during fœtal life.

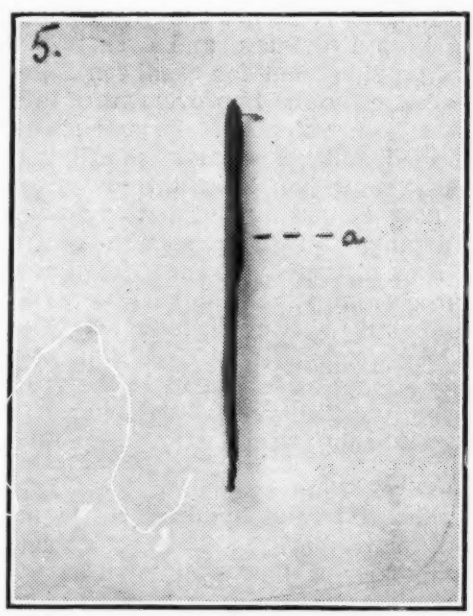

Plate 5.—Longitudinal section of fœtal spleen showing (*a*) tuberculous lesion in substance of spleen.

RETRO-PHARYNGEAL ABSCESS IN A DOG

Hamilton Kirk, m.r.c.v.s.

I was called recently to attend a Yorkshire terrier which was showing the following symptoms:—

Great dulness, slight salivation, occasional gulping movements, vomiting in the early stages, temperature 103° F. The head was held stiffly and protruded forward when in a state of rest, but it could be turned to either side quite well, although the dog would not voluntarily move it. There was ability to swallow liquids and even soft food, but no desire to feed unless coaxed. I was told that the dog showed remarkable docility in comparison with its usual behaviour towards strangers.

Although the soft palate and tonsils showed no inflammation, I was of opinion that there was an acute pharyngitis and considered that a radiograph might give valuable diagnostic aid. The owner agreed and the dog was removed to my surgery where the photo—reproduced opposite—was taken.

It clearly showed the larynx and trachea pushed downwards and away from their normal situation. If the reason for this was a foreign body, then this was not revealed by the radiograph; and the fact that the dog could swallow food, led me to believe there was no foreign body.

Hot compresses were ordered for external application and a soothing antiseptic syrup was given by the mouth. I was to have been called in again if the dog got worse, but I did not receive the second summons until 48 hours had elapsed. I then found the dog in a state of semi-coma, remarkably thinner in so short a time, and a slight swelling was discernible on the right side of the throat.

Although this did not feel at all like an abscess, I felt that an exploratory puncture should be made and the dog was removed for that purpose. Upon arrival, however, the dog was just expiring. After death a fine Symes knife was introduced into the swelling and it penetrated about an inch before there was an escape of a liquid which looked like thin brown soup.

The throat was then opened up and the pharynx found to be full of this dirty-looking fluid. The mucous membrane was entirely coated with a greenish-brown fibrinous deposit, removal of which exposed an angry-looking, purple, granular surface.

There was no foreign body, and nothing I could discover which gave any clue as to the cause. What seemed remarkable to me about the case was why any collection of inflammatory

Illustrating Major Kirk's Case.

liquid should remain imprisoned in such a position; I should have expected that it could easily have been swallowed or expectorated.

Secondly, there was no laudable pus, as one might reasonably have expected from an infected mucous membrane; and in consequence of this, possibly my reference to the condition as a retro-pharyngeal abscess is a misnomer.

Finally, I think it is correct to say that cases of croupous pharyngitis in dogs are very rare. Dogs do not suffer from true diphtheria, and had this particular animal been a subject of that disease, I think it highly likely that the small children who fondled the dog would most certainly have contracted the infection.

COLONIAL VETERINARY SERVICES REPORT

Nigeria

[Annual Report of the Veterinary Department, Northern Provinces, 1930. Foolscap. 46 pp. 10 illustrations. Lagos, the Government Printer. Price 4s. 6d. Obtainable from the Crown Agents for the Colonies, 4, Millbank, London, S.W.1.]

Stock Census.

Cattle.	*Sheep.*	*Goats.*	*Equines.*
2,988,000	2,072,000	5,150,000	750,000

Staff.

Captain W. W. Henderson is the Chief Veterinary Officer, and Captain G. N. Hall, the Veterinary Pathologist.

Disease.

Rinderpest.—Thanks to the policy pursued since 1926 there is a noticeable lessening in the number of outbreaks and the native owners have increasing confidence in the methods of immunisation. Cattle to the number of 222,000 were actively immunised during the year by the serum-simultaneous method with a mortality of under 3 per cent. Experimental observations with formalised vaccine have been continued, but the method is stated to produce an immunity of only one year's duration.

Contagious Bovine Pleuro-pneumonia attracts attention chiefly on the trade routes followed by cattle from French territory, and in the adjacent provinces. The susceptibility of the cattle in different areas appears to vary, and the results of vaccination are not therefore uniform. Nearly 19,000 cattle were vaccinated.

Blackquarter.—This disease is widespread and attacks all ages. Nearly 250,000 cattle were vaccinated with a vaccine prepared at the Nigerian Veterinary Laboratory, and native owners are very enthusiastic.

Trypanosomiasis.—This infection in cattle has attracted more attention than previously owing to the cattle owners' desire for treatment by antimony potassium tartrate, for the intravenous injection of which native assistants have been trained.

Foot-and-Mouth Disease was widespread, and the mortality among calves was high. It caused also considerable loss in condition among rinderpest serum-making oxen at the Laboratory.

Tuberculosis in bovines of the Northern Province has been detected and is believed to have originated from some cattle imported into the German Cameroons before the war. Some difficulty has been experienced in obtaining the strain in culture.

Rabies appears to be on the increase.

Skin diseases of Sheep and Goats are responsible for considerable economic loss, and it is hoped they may be more fully investigated.

Research.

The Laboratory prepared 252,000 doses (12,600 litres) of anti-rinderpest serum: 9,200 doses of formalised rinderpest vaccine: 400,000 doses of blackquarter vaccine: and 34,000 doses of pleuro-pneumonia vaccine.

The experimental work was largely devoted to improvements in the titre of the various sera and vaccines and in testing the efficacy.

Tuberculosis, coccidiosis, heartwater, babesia of sheep (*B. motasi*), fowl typhoid, polyneuritis of fowls, and plant poisoning have been under investigation.

Captain Hall is assisted by Mr. Beaton at the laboratory. Mr. Manley was transferred to Cyprus.

Economics.

Some 150,000 cattle are consumed annually in the Northern Provinces, and over 260,000 are taken to provide meat for Southern Nigeria.

The scheme for the improvement of hides and skins has been extended. Drying sheds have been erected and a system of punch marks or indelible stamps has been introduced so that buyers may be assured of better flaying and shade drying. In more remote centres the Native Administration has instituted a similar procedure, from which both owners and the hides and skin industry derive much benefit.

The long-woolled (Daura) sheep have continued to attract attention, as in the wool there exists the possibility of developing a village weaving and spinning industry.

The Stock Farm.

One thousand four hundred cattle and 200 sheep are maintained here. From animals kept in this manner it has been possible to study some of the minor diseases of the country, diseases which, in the presence of epizootics, do not come to the notice of veterinary officers.

Abstracts

[Two Interesting Cases of Tuberculosis in the Horse. Pötting. *Berliner Tierärzt Wochenschrift.* xxxxvii. 37. pp. 600-601.]

The cases are remarkable because of their clinical symptoms and pathological anatomy.

Case 1.—A 4½-years-old mare had fallen at work and had gone lame in the right hind leg, there being muscular contusion in the region of the hip joint. Appetite was impaired but improved under treatment and the lameness got better. Eight days later the mare was found down and unable to rise: she was very restless and seemed to be in considerable pain. The conjunctival mucous membrane was injected, pulse rate accelerated to 50, temperature 39° C. and breathing laboured. Vesicular sounds could be heard on auscultation of the chest. After many unsuccessful attempts the mare was at last able to rise to her "knees" with hindquarters raised, but was unable to get on her fore feet. She again became recumbent and caffeine and arecoline were administered. After a period of rest, during which she ate in the recumbent position, the mare struggled to rise but was only able to adopt a dog-like attitude; this time the forelegs seemed sound but she was unable to raise the hindquarters. As the symptoms became aggravated, slaughter was advised but death occurred before it was carried out. On *post-mortem* examination a large amount of serous fluid was found in the abdomen. Near the origin of the mesentery there was a large tumour-like growth, yellowish in colour and weighing 16 pounds: the surface was nodulated, the nodules varying in size from that of a walnut to that of a hen's egg. The kidneys, spleen, cæcum, vena cava and aorta were all obscured by the growth—the consistence of the tumour was hard and fibrous, but soft areas could be felt. The cut surface of the nodules was moist and glistening and showed radiations in places; in the soft areas of the tumour the contents were drier and mortar-like. The mucous membrane of the small and large bowel as well as the lymph glands showed no change; the kidneys showed thickened capsules but no other alteration. The spleen was much enlarged and showed many nodules from some of which a creamy pus could be squeezed, while the spleen substance was blackish red and granular, the corresponding lymph glands being enlarged and caseous. The liver and lymphatics showed no marked change apart from slight swelling. On the peritoneum in the neighbourhood of the tumour and on the diaphragm there were small hard lentil-sized papillomatous nodules. Tubercles were present throughout the lungs and in some places they were adherent to the pleura, on which also nodules were found. Bronchial glands were enlarged and the mediastinal glands were swollen, thickened in capsule and on section showed a distinct radiation with caseous areas. Microscopic examination revealed the tubercle bacillus in large numbers. The bones were not subjected to microscopic examination.

Case 2 was a 14-years-old horse which had suffered from chronic cough and poor appetite and was rapidly losing condition: vesicular sounds were heard on chest auscultation. Rectal examination revealed the presence of an enlarged nodulated spleen. Temperature was raised to 38·5° C. and a tentative diagnosis of tuberculosis was given. A positive reaction to the conjunctival tuberculin test was obtained. On *post-mortem* examination the lungs were found to have a large number of dry caseous nodules. The spleen was nodulated, while there were many rounded nodules under the liver capsule: in the liver parenchyma there were many fibrous greyish-white new growths. The lymph glands were enlarged. Although externally the heart showed no alteration, the endocardium of the left ventricle was rough and horny, and gritty when incised.

J. K. B.

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[Avertin Anæsthesia in the Dog and Cat. Cuillé, Darraspen, Chelle, *Revue Vét.* lxxxiii. Sept., 1931. pp. 481-492.]

The authors review the work done and the various methods employed to produce anæsthesia in the dog and cat by means of Avertin. They repeat the warnings given by Wright and others of the danger of over-heating the prepared solution and the toxic nature of the product formed. Congo red is also used by them as an indicator to insure that decomposition has not taken place. The unsatisfactory results achieved in the production of anæsthesia in dogs with Avertin have led them to carry out a number of experiments. As a result, they advise the subcutaneous injection of scopolamine and morphine prior to the administration of Avertin *per rectum*.

Scopolamine is advised because of its ability to paralyse the vagus nerve and thus cause acceleration of the heart and slowing of respiration. It diminishes secretions and lessens the excitability of the cerebral cortex. Because of this last action and also because it is less toxic,

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Crosses of Red Poll cattle and of Southdown sheep, as well as of the woolled "Daura" breed have been studied, and feeding experiments with native grains and other local supplementary foodstuffs were undertaken.

A collection of grasses and plants has been sent to Kew.

scopolamine is preferable to atropine (which also paralyses the vagus). The disadvantage of scopolamine is that it causes contraction of the abdominal wall, and it is for this reason that morphine is given with it.

The mixture they advise is:—

Bromhydrate of scopolamine ...	0·15 gr.
Chlorhydrate of morphine ...	1·5 gr.
Water	10 c.c.

1/10 of a c.c. per kilo body weight is injected.

Relatively small doses of Avertin are required and this is given about half-an-hour after the required dose of the above mixture. Anæsthesia lasts from one to one-and-a-half hours, varying with different individuals. The authors have had no untoward happenings while employing this method.

Scopolamine and morphine are contra-indicated in the cat. The simple rectal administration of Avertin is considered quite satisfactory in this animal though some fatalities have been recorded by Wright.

J. K. B.

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[**Periarterial Sympathectomy in Veterinary Medicine.** Fleuret. *Revue Vét. et Jour. de Méd. Vét.* lxxxiii. Sept., 1931. pp. 493-494.]

Little change has taken place in the treatment of chronic or subacute conditions of the horse's foot and hock during the last century: most cases are eventually fired or unnerved. For two years the author has practised periarterial sympathectomy of the digital artery for chronic conditions of the foot and of the anterior tibial artery for arthritis of the hock joint. The technique is simple: the skin is incised for a distance of about 2½ in. over the vessel, the artery is isolated and with the aid of forceps and scalpel, the adventitious coat of the artery is detached for a distance of about two inches—the wound is then sutured. In the case of a foot both digital arteries should be operated upon, and care should be taken to remove the adventitious coat all round the vessel. No increase in the lameness has occurred: congestion, as evidenced by heat, occurs in the foot and the lameness disappears in a month or six weeks.

The results obtained are (*a*) chronic laminitis—four operations, three cures and one improvement; (*b*) subacute laminitis—three operations, two cures, one improvement; (*c*) periostitis—nine operations, eight cures, one improvement, (*d*) navicular disease—one operation, one cure; (*e*) osteo-arthritis of hock—two operations, one complete cure, one not altered.

The author considers that periarterial sympathectomy ought definitely to take its place in veterinary surgery, and if applied judiciously to young subjects, will often effect a cure.

J. K. B.

N.V.M.A. Divisional Reports

ROYAL COUNTIES V.M.A.

Officers Elected at London Meeting

A meeting of exceptional interest was enjoyed by the large number of members of the Royal Counties Division, N.V.M.A., who attended at 10, Red Lion Square, W.C.1, on the afternoon of Friday, November 27th, 1931, for not only was there transacted the important business of electing the officers of the Society for the ensuing year, but there was afforded the always refreshing experience of a practical address from Mr. Henry Gray, whose topic was "Some Medical and Surgical Conditions in the Dog."

The chair was occupied by the President (Major G. W. Dunkin) and there were also present Messrs. J. R. Baxter, John Bell, H. Bell (Hon. Secretary), Captain R. E. C. Bullen, Captain H. B. Collet, Messrs. J. A. Craft, A. C. Dixon, Major A. C. Duncan, Mr. E. J. Heather, Captain J. R. Hewer, Major H. Kirk, Captain W. L. Little, Mr. G. P. Male, Mr. J. McIntosh, Major F. J. Taylor, Messrs. F. W. Willett, J. Willett and Ernest Wilkinson. *Visitors*: Mr. Chippenfield, Mr. Henry Gray and Miss Marian Stewart.

The minutes of the previous meeting, having received publication in the *Veterinary Record*, were taken as read and were confirmed and signed.

Correspondence

(1) From the following gentlemen, expressing regret at their inability to attend the meeting:—Major J. J. Dunlop, Messrs. C. P. Inglis, Harry Lepper, J. McKerlie, H. L. Roberts, Colonel G. K. Walker, Mr. R. A. Willett and Captain E. C. Winter.

(2) From Mrs. Jagger, in response to a letter of condolence in the loss of her husband, Lieut.-Colonel H. C. Jagger, which had been sent by the Hon. Secretary on behalf of the Society. Mrs. Jagger requested the Hon. Secretary to convey to the President and members deep appreciation of their sympathy and their action in sending a floral tribute. The President observed that those of them who were not already aware of the fact would have gathered from that item of correspondence that the Society had suffered a very great loss in the death of one of its most important and one of its oldest members, Colonel Jagger. Colonel Jagger had been a member of that Division for, he thought, twenty-five years—as long as many members of old standing and longer than most of the general body of members—and, as most of those present knew, had been a regular attender at its meetings and, as invariably, had taken part in a useful and lively manner in its discussions. He (the President) was sure that not only the members of that Division, but the whole profession would regret intensely the sudden death of their old member.

As they had heard, their Secretary (as he himself had done) had written Mrs. Jagger on his own and the Division's behalf, and they had both received replies. The Division was represented at the funeral by the Secretary and Captain Collet, of Aylesbury. He would ask them to stand in token of respect to their lost member.

The members stood for a few moments in silent tribute.

Resignations.—The receipt of letters of resignation, on account of their inability to attend the meetings of the Division, was announced from Mr. Cyril Elphicke, of Bedford, Mr. R. E. Glover, of Cambridge, Principal F. T. G. Hobday and Mr. H. L. Roberts, of Ipswich. A recommendation of Council that these resignations be accepted with regret, was adopted by the meeting.

Hon. Associateship.—Colonel Simpson observed that, although they had accepted Principal Hobday's resignation as an ordinary member, he desired to propose that a recommendation be put forward to the January meeting that the dignity of Honorary Associateship be conferred upon him.

Mr. Male seconded, and proposed that a similar recommendation be made in respect of Professor G. H. Wooldridge. This was seconded by Mr. J. Willett, and both propositions were carried unanimously.

Nomination.—Mr. Paul Crosfield, of Chipping Norton, was nominated as a member by Mr. Wilkinson, seconded by Mr. Male.

An Interesting Case.—Captain Bullen brought to the notice of the members a case of constriction of the œsophagus in a five-months old terrier. The condition in this puppy was (said Captain Bullen) supposed to have been congenital.

Between the ages of four and five months the puppy did not grow at all, and as it became emaciated he destroyed it. The puppy was unable to keep a large meal down: its food had to be cut up very small, but, curiously enough, it was less liable to vomit if given small quantities of dry food than if the food was given in a moist state.

Election of Officers

President.—The Chairman (Major Dunkin) observed that the first office to be filled was that of President, and if no other person had a name to put forward he would claim their indulgence and ask to be permitted to put one forward himself.

There being no response, the Chairman proceeded to say that it was his pleasure to propose that Major Taylor, of Oxford, be elected to succeed him in the presidential chair. (Applause.) He was glad—he had, of course anticipated as much—that that proposition should have been received with such acclamation. Major Taylor had been a member of that Division for many years; he was a very regular attender at their meetings and he took part in most, if not all, of their discussions, while he was very keenly interested in the affairs of the Society. He need say no more to commend that proposition to them, not even to ask for a seconder.

The election was made with enthusiasm, and Major Taylor returned thanks for the honour which had been conferred upon him. It was a very unexpected trust, so far as he was concerned, but he should endeavour to emulate all the very able men who had been his predecessors in the office of President.

Vice-Presidents.—The retiring President, Captain Collet and Colonel G. Rees-Mogg.

Council.—Mr. J. R. Baxter, Captain E. C. Bullen, Professor J. B. Buxton, Major J. J. Dunlop, Mr. G. P. Male, Mr. J. W. McIntosh and Messrs. F. W. and J. Willett.

Hon. Auditor.—Mr. J. Willett.

Hon. Treasurer.—Captain E. C. Bullen.

In connection with this office, the Chairman paid a warm tribute to the energy and ability with which Mr. Male had officiated for many years in the capacity of Hon. Treasurer to the Society. The Council of the Division had received Mr. Male's resignation from the post with profound regret and had made every endeavour to induce him to continue, but without success. They could not allow that occasion to pass without expressing to Mr. Male their deep sense of gratitude for what he had done for the Society as its Hon. Treasurer: he had looked after their finances extraordinarily well. (Applause.)

Mr. Male acknowledged the tribute in suitable terms.

Hon. Secretary.—Mr. H. Bell. In moving Mr. Bell's re-election, from the chair, Major Dunkin spoke highly of the capable manner in which the Hon. Secretary had fulfilled the multifarious duties devolving upon him.

Representatives to Council, N.V.M.A.—Professor Buxton, Major A. C. Duncan, Mr. J. Willett and (*ex-officio*) the Hon. Secretary.

Representative to Council, Victoria Veterinary Benevolent Fund.—Major G. W. Dunkin.

Next Meeting.—It was unanimously decided to hold the next meeting of the Division (the Annual Meeting) at Reading.

Treatment of the Sick Animals of Poor Persons.—Prior to the resolution of the meeting into committee to consider memoranda from the N.V.M.A. relative to schemes for the treatment of the sick animals of poor persons, the Chairman extended a cordial welcome to the visitors, and also, amid further applause, congratulated Mr. Wilkinson upon the recovery he had so far made from the serious accident with which he had met over a year ago: his fellow members were delighted to know that Mr. Wilkinson was now well enough to resume attendance at their meetings.

The meeting spent a considerable time in committee in discussion of the relative merits of the Centralised and Decentralised Schemes it is proposed to carry out in conjunction with the R.S.P.C.A.

Notice of Motion.—Upon the resumption of open meeting, Mr. McIntosh, under the heading of "any other business," gave notice that at the next meeting of the Division he would move:—"That two members of the Council of the Division retire annually." This, said Mr. McIntosh, would give an opportunity for the younger members of the Society to take a more active and prominent share in its administrative affairs.

Paper.—Following an adjournment for tea, the Chairman called upon Mr. Henry Gray to address the meeting on the subject of "Some Medical and Surgical Conditions in the Dog." Mr. Gray's practical observations were heard with great interest, and evoked a well-sustained discussion. [The address and a report of the ensuing discussion and of Mr. Gray's reply thereto, are reproduced at the commencement of this issue of the *Record*.—Ed.]

The meeting concluded with the passing of a hearty vote of thanks to Mr. Gray for his address, an expression of appreciation to Mr. Bullen for bringing forward his interesting case, and the payment of a similar tribute to the Chairman for his conduct of the proceedings and his activities in the presidential chair during his year of office.

H. Bell, *Hon. Secretary.*

CENTRAL VETERINARY SOCIETY

Interesting Cases Described at Red Lion Square

With the newly-elected President, Major Hamilton Kirk, in the chair, a well attended meeting of the Central Division, N.V.M.A., was held at 10, Red Lion Square, W.C.1, on the evening of Thursday, December 3rd, 1931.

There were also present Lieut.-Colonel E. P. Argyle, Captain L. S. Balls, Mr. W. Brown, Captain R. Bryden, Captain R. E. C. Bullen, Mr. H. E. Bywater, Major W. Denington, Messrs. H. D. Jones, D. Johnston, H. C. P. King, H. W. King, W. J. Leyshon, G. H. Livesey, Professor James Macqueen, Mr. G. P. Male, Professor J. McCunn, Mr. J. W. McIntosh, Dr. F. C. Minett, Major-General Sir John Moore, Mr. W. Perryman, Mr. A. Spicer, Captain R. J. Stow, Captain W. K. Townson, Messrs. A. S. Watson, J. Willett, R. A. Willett, J. D. Williams, Professor G. H. Wooldridge, Professor J. G. Wright and Captain J. F. Macdonald (Hon. Secretary). There were present as visitors Major Andrew Spreull (Dundee), Mr. G. F. Prickett and Mr. H. C. Munfield.

The minutes of the May and June meetings of the Division, having received publication in the *Veterinary Record*, were taken as read and were confirmed and signed.

Correspondence

(1) From Major G. W. Dunkin, Dr. A. L. Sheather, Lieut.-Colonel P. J. Simpson, Mr. H. L. Roberts, Mr. M. Tailby and Mr. F. W. Willett apologising for their inability to attend the meeting.

(2) From Mr. A. J. Beeson, requesting the Society to accept his resignation from membership, as he was now living a considerable distance from town and found it impossible to attend any of the meetings.

Mr. Beeson's resignation was accepted, with regret.

(3) From Mr. W. Brown, expressing his appreciation of the message of sympathy with him sent by the Society on the death of his father.

(4) From Mr. C. W. Howard, of Dorking, thanking the Society for their sympathy and good wishes for a speedy recovery from his accident, and stating that, though out of hospital, he was still confined to bed.

Captain Stow informed the meeting that it was now five months since Mr. Howard's leg was broken and that the mending of the fracture was proving a tardy matter.

The President voiced the sympathy felt by all the Fellows with Mr. Howard in the delay which was taking place in his restoration to health.

(5) From the General Secretary, N.V.M.A., enclosing copies of an article entitled "The Veterinary Profession and its Obligations to the Public," this being the first of a series of articles which the Organising Committee were having prepared with the object of making the public better acquainted with the training and work of the veterinary surgeon. The copies were sent in the hope that members of the Division would use their personal influence to secure the publication of the article in local newspapers.

Several members present accepted copies of the article for the purpose mentioned.

Professor Macqueen's Return.—Mr. J. W. McIntosh observed, amid applause, that they would all be agreed that a special welcome should be extended to their old friend, Professor Macqueen. They were all very delighted to see him back amongst them again after his long and serious illness, and they all hoped that he would continue to come amongst them for many years. (Applause.)

Professor Macqueen made suitable acknowledgment.

The President now extended, in the name of the Society, a hearty welcome to Major Spreull, of Dundee: he wished their visitor lived somewhat nearer, in order that he might join the fold. (Hear, hear.)

Morbid Specimens and Cases of Interest

Professor G. H. Wooldridge observed that he had a specimen which, he thought, was of interest in this way: from time to time they had exercised their minds as to what foreign

bodies could be swallowed by large animals, especially ruminants. The exhibit before them was a bull fastener, which was hinged on by a special clip and which, if properly put on, was very secure. On a particular occasion the owner of the bull, after service, put the bull in his stall, applying the fastener, but apparently he omitted to put the catch on properly. He had got a little way from the bull, when he heard a sound of metal falling and returned, but although he searched carefully for this thing he could not find it, and the only conclusion to which he could come was that the bull had swallowed it. He anticipated trouble, but the bull did not appear to be much the worse.

The owner was astonished sometime later (actually on the fifty-second day), to hear the metallic sound again and to find that the bull had passed the foreign body. That was a matter of great interest to them: how a thing of that kind could negotiate the difficulties presented by the œsophagus, and, after it had passed the œsophagus, pass through the stomach and intestines.

The exhibit was given by him the previous day by Mr. Neville S. King, of Leatherhead, who had asked him to present it at that meeting.

He had also another specimen, which he was to show them on behalf of Major Dunkin. Major Dunkin had typed a description of the case, which he would read to them.

Major Dunkin's note was as follows:—

"The specimen produced is a small portion of intestine, about one foot in length, with the ileo-cæcal valve situated about the centre. It was obtained from a puppy six-and-a-half months of age which had been experimentally infected with distemper on August 14th of this year.

"He developed an almost typical disease with considerable variation in temperature for about a month. At times there was some amount of vomiting, and diarrhœa continued throughout the whole course of the disease with more or less severity. After a prolonged illness, during which much condition had been lost, the temperature dropped to and remained normal (September 28th, 1931). On this date the puppy was removed to other kennels and, although still under our control, was not subject to the daily and sometimes bi-daily inspection. It was thought, in fact, that he would make the usual recovery which is seen in such cases. The puppy was, however, very thin and, unlike others which we have seen, had little appetite. His condition remained poor until December 1st, when it was observed that although he masticated meat with some relish he did not swallow it or, in fact, any solids. The desire for drinking water continued. At this stage some amount of blood was noticed in the fæces and it was decided to destroy the animal forthwith.

"An overdose of chloroform was administered and a *post-mortem* examination was made at once. This revealed the presence of a piece of bowel about four inches in length and on the upper side of the ileo-cæcal valve, much distended and congested and having all the appearances of an intussusception; in fact, at first we thought that such a condition was present. Parts of the outer surface were adherent to omentum and one spot was about to burst. On palpation the abnormal piece of intestine was hard and not resilient and on cutting through the whole length of this part of the bowel the contents were seen to consist of hair balls with, at the upper part of the obstruction, two pieces of bone which were found opposite the ileo-cæcal valve.

"The case is of interest because of the rarity of hair balls so far away down the intestine and it is more than probable that they would have been safely passed had the pieces of bone not been present and commenced the occlusion by becoming impacted at the narrow part of the intestinal lumen where they were found. I have formed the opinion that the obstruction had been present for some time but that it had become aggravated by the addition of further solids and had developed into an impenetrable barrier to ordinary foodstuffs. A further point of interest is that it happens to be one of those rare and interesting cases where a *pre-mortem* examination, with or without X-ray assistance, might have resulted in an erroneous diagnosis, for it is highly probable that an intussusception would have been diagnosed.

"My theory concerning its commencement is that the puppy commenced eating bones before the intestinal tract, already much injured by the constant diarrhœa due to the distemper organism, was capable of dealing with such diet."

Professor Wooldridge, continuing, observed that the specimen appeared to be one of unusual interest. Major Dunkin called it hair ball, but he (Professor Wooldridge) thought he would have been wiser if he had called it hair concretion: two pieces of bone projected from the obstruction through the ileo-cæcal valve and there was occlusion.

Mr. J. D. Williams said that he had brought two *post-mortem* specimens, the first of which was simple, in a way—it was a calculus from the bladder of a rabbit. He felt that calculus during life, which, of course, was not a difficult thing to do. He destroyed the rabbit, and he was surprised to find the whole of the bladder occupied by the calculus.

His other specimen was the liver of a dog. The history was that this animal was brought to him for eczema affecting the carpus and tarsus, and the dog at that time seemed in fair condition. The dog was treated and appeared to respond, but about a month later it was brought

back. Then the eczema was certainly worse: it was a peculiar type of eczema, and the dog was biting and gnawing at his legs and feet. He told the owner that the case was hopeless, and ventured the opinion that there was probably some internal trouble, the seat of which, in all probability, was the liver. He said that because he remembered a case in a colt where there was similar trouble: the animal nibbled his legs constantly and was very emaciated. Eventually the colt was slaughtered and *post-mortem* revealed an enormous liver. He destroyed the dog, and was somewhat gratified to find that the liver was affected, as he had predicted: he would, however, be perfectly frank with them—he did not know what was the condition with which the dog's liver was affected. He desired to add that, on the second occasion upon which he saw the dog he elicited the information that the dog had in all likelihood been the subject of an accident: no accident had been witnessed, but the condition of the dog led the owner to surmise that such was the case. Was it possible that the liver had been injured in an accident and had healed in some extraordinary manner? That was the only theory he could put forward.

Professor J. G. Wright recounted a case, the history of which was that a four-months-old Alsatian puppy which, prior to being presented to them had been perfectly normal four days before examination, was seized with an illness, the chief symptom of which was acute vomition, which lasted for 24 hours. Although the vomition had ceased when the examination took place, the puppy was very ill; in fact, it was *in extremis*, and was suffering from acute toxæmia; the temperature was subnormal, and on palpation of the abdomen great tympany could be detected. The case was pronounced hopeless, and the animal was destroyed.

On *post-mortem* three remarkable lesions were found, each individually being remarkable. In the first place there was a rupture of the mesentery near the ileo-cæcal valve, and into that rupture part of the jejunum became incarcerated. The second was that the jejunum was twisted on itself, completely, twice; and the third, and most remarkable lesion of all, was that the jejunum was tied in a complete knot. It was difficult to understand how a tube which was fixed at both ends could be tied in a knot. He had no explanation of the case to offer.

Mr. R. A. Willett exhibited the last pig to live of a litter of five, and which had conveniently died two hours prior to the meeting.

These pigs were Tamworths, and they were perfectly normal when they were born, but when they attained about eight weeks of age each developed a small scab on the face, and which he could not explain. Two years ago he had the same trouble, again with a Tamworth, and although they kept from 200 to 300 pigs at that place they had never had this trouble except on these two occasions.

Three of the pigs died from meningitis, and the owner asked him to look at the remaining two of the litter. He went and took a piece of the frontal bone of one which had just died, and pus welled up from the cranial cavity. The specimen presented was the head of the remaining one.

Discussion

The President said that he would like to ask Professor Wright about his statement that the jejunum had passed through a hernia in the mesentery and that that accounted for there being no more sickness. Why should it? The stomach could still throw off its mucus if there was an irritability.

Professor Wright replied that his explanation was that in many cases of acute vomition the vomit came from quite a long way down the alimentary canal: at least three-quarters of the small intestine was incarcerated.

Professor Wooldridge remarked that in his experience of simple twist of the bowel in the dog (he had not seen so complicated a twist as this) vomition had persisted to the end. It was rather interesting, in the case under notice, that vomition should have ceased. He did not think that it was caused by the incarceration; in his opinion, inability to respond was a more likely explanation.

Professor Wright observed that his explanation was perhaps a little weak, but the remarkable thing was that the stomach wall looked to be comparatively normal. Another remarkable feature was that there were normal fæces in the rectum.

Professor Wooldridge said that one of the greatest points of interest was the seat of the rupture of the mesentery, and the fact that it corresponded so closely to the seat of rupture of the mesentery followed by twist in the horse.

Sir John Moore remarked that, with regard to rupture and vomition, his experience in horses was that one always found vomition with a ruptured stomach: it was an indication of that condition.

Professor Wright expressed interest in Mr. Williams' specimen of the dog's liver: no explanation had been forthcoming as to what the lesion was. He thought it was a lesion with which they frequently met in both the dog and cat, and for want of a proper name he had called it hæmorrhagic degeneration of the liver. He did not think that the lesions could be called hæmangiomata. He remembered on one occasion palpating those enormous enlargements in a cat's liver: eventually he removed nearly the whole liver. When they performed paracentesis abdominis in such cases, almost pure blood

would come through the cannula. He thought the condition was a common one but he had never noticed the bearing that it had on skin irritability and gnawing of parts of the body that had been noted by Mr. Williams.

Mr. G. P. Male (President, Royal College of Veterinary Surgeons and a Fellow of the Society) said that, as was invariably the case when he had the pleasure of attending their meetings, he was rewarded by the very interesting specimens which were always brought forward.

With regard to the pigs, it appeared that the frontal sinus was involved; either there was an infection from the nose, or some injury to the parts: he should favour the former theory, as all the pigs in the litter were affected, also a previous litter. Concerning the liver, it would be very interesting if sections could be cut to show if there were any malignant growth, which its appearance suggested.

With regard to the concretion of hair, he thought one of the best methods of freeing a dog of hair concretion was to give suet pudding, in place of purgatives or liquid paraffin which simply acted and left the hair coiled up in the bowel. The suet pudding collected round the hair, greased the bowel, and brought the concretion away. In reply to the President, he might also apply this method to the removal of hair-ball in the cat. If the dog would not eat the suet pudding, he made it into little balls and put them down the throat.

The President observed that it had been suggested to him that the lesion in the pig's head might have been due to *Cœnurus cerebralis*.

Mr. Male: " Is that present in the pig? "

Professor Wooldridge: " I have not met with it in the pig, but that does not suggest that it cannot, in an aberrant case, appear there."

Professor McCunn said that, with reference to the liver exhibited by Mr. Williams, it was rather a common condition in the dog and it was one which had interested him for a long time. When he was working at the hospital he took a number of those livers to Dr. Turnbull, who was probably the most renowned morbid anatomist in this country. Dr. Turnbull was very interested in them; firstly, because the lesions appeared to be primary in the liver, and secondly, because histologically they gave the appearance of being very malignant structures, and he gave them the name hæmangiomata. He said that they resembled the human hæmangiomata, and he (Professor McCunn) let it rest at that. When the case quoted by Professor Wright came up, however (it was an Airedale) and he took the liver to be *post-mortemed* by Dr. Hare, the College pathologist, he told Dr. Hare what he had just related to them concerning Dr. Turnbull. To his surprise, Dr. Hare did not agree—and he also believed other veterinary pathologists did not agree—that the lesion was a malignant growth. It would be interesting if someone would take that matter up, because it was a common condition and one which was met with both in the liver and the spleen.

He made those few remarks to show how human pathology differed from veterinary pathology: a condition which a human pathologist would count as very malignant was a source of doubt in that regard to our veterinary pathologists.

Major A. Spreull, accepting the invitation to contribute extended to him by the President, said that he had much enjoyed seeing the morbid specimens and listening to the discussion which their exhibition had evoked.

He wondered if he might bring up a point about the occurrence of calculus in the bladder. A few years ago he had a succession of cases of stone in the bladder, which was a condition not uncommon in the bitch. In one case an Irish terrier bitch was brought in heavy in whelp. They were able to feel a number of stones in the bladder, and were able successfully to remove them by operation. She did very well, had her litter safely and reared her puppies, but between seven and eight weeks after pupping she commenced straining again and had a recurrence of all the symptoms of cystic calculi. Eventually she was destroyed and on *post-mortem* the bladder, which had been carefully emptied of all stones, was found to be filled up with calculi; that had occurred in the short period of from 10 to 11 weeks. He wondered if Professor Wright or others had had experience of recurrence of cystic calculi in small animals.

The specimen of the pig's head was very interesting to him. He had found bladder worms in the abdomen of the pig, and it struck him that in this case the worm might have found its way to the brain.

The bowel case was, of course, also very interesting to him: it was an exceptionally interesting specimen of the many twists with which they met in practice.

Professor Wright commented that the rapid recurrence of cystic calculi was a well-recognised fact; in fact, he thought that in many cases the operation for the removal of stones was futile. That was especially the case in the male dog, in which stones caused trouble by getting into the urethra. Stone in the bladder, however, was a question which, he thought, had to be tackled from an angle other than the surgical one.

Professor Wooldridge would not go so far as to say that operation for stone was futile, because in his hands he had found recurrence to be most frequent where the stones had been multiple; in other instances, where there had been a single stone, the recurrences, when they had taken place, had not been so frequent. Even

with multiple calculi, dogs could frequently be saved for their owners with considerable periods of happiness and comfort.

The President recalled to the recollection of Fellows an exhibit to the Central Society of 1,800 stones which Professor Wright had removed from the bladder of an Airedale.

Professor Wright thought that the subject of stone in the bladder could not be dismissed under the simple heading "stone in the bladder." There were a number of types. The first was that type which was not preceded by any cystitis: they were oxalate stones and they were usually facetted, and when one opened the bladder one did not find any thickening at all. In the other—the mulberry—type, there was a preceding cystitis. The stone exhibited from the rabbit's bladder was, he should say, of the mulberry type, because it showed places where it had been in contact with the inflamed mucous membrane.

Nomination.—Lieut.-Colonel H. Greenfield, of Camberley, was nominated as a Fellow of the Society, on the proposition of Professor McCunn, seconded by Professor Wright.

Elections.—The following elections of Fellowship were unanimously made:—

Captain W. P. B. Beal, D.V.S.M., Whipsnade Park, Bedfordshire—Proposer: Principal F. G. Hobday, Seconder: Hon. Secretary; Miss A. M. Catchpole, 32, Mowbray Road, Edgware—Proposer: Principal F. G. Hobday, Seconder: Professor G. H. Wooldridge; Mr. D. C. E. Danby, 55, Elizabeth Street, Eaton Square, S.W.1—Proposer: Principal F. G. Hobday, Seconder: Hon. Secretary; Mr. J. C. Rix, 304, Broadway, Bexley Heath, Kent—Proposer: Principal F. G. Hobday, Seconder: Professor G. H. Wooldridge; Mr. E. Clark, 40, Cedar Road, Sutton, Surrey—Proposer: Captain L. S. Balls, Seconder: The President.

The Royal Sanitary Institute Congress, 1931

Mr. H. E. Bywater, on the call of the President, now presented the following report in his capacity as the Division's delegate to this Congress:—

"Mr. President and Fellows: I present herewith my report of the proceedings of the Forty-second Congress of the Royal Sanitary Institute, which was held at Glasgow from July 4th to 11th, 1931, and which I attended as your delegate.

"The deliberations of the Congress as a whole were very largely influenced by the problems which have arisen in consequence of the additional responsibilities placed on local authorities by the Local Government Act, 1929, and the Housing Act, 1930 and, as a result, few of the papers outside our particular section were of professional interest to the veterinarian.

"Sir Henry Mechan was President of the Congress and in his inaugural address, welcomed the delegates to Glasgow and extolled the virtues of that city. He then dealt with the progress of public health in industry and traced its development in Glasgow.

"J. Parlane Kinloch, Chief Medical Officer, Scotland, in his presidential address to the section of Preventive Medicine, dealt with 'Health Services in the Modern State' and stated a case for the adoption of a biological, rather than a medical, policy in public health. He said that 'one of the fundamental aims of statecraft . . . should be the promotion of the health of the individual to the end that, as a race, we may grow in health and vigour.' He attributed the reduced death-rates and the advances made in medicine and surgery largely to improved nutrition and reduced hours of labour, which causes one to reflect on the part veterinarians play in the nutrition of the populace, and also on the parallel to be drawn from equine practice following on the adoption of the eight-hour day.

"The purely medical side of the Congress was devoted mainly to hospitals and general medical services to meet the increased demands and also their extension to serve the middle classes. Eugenics, including sterilisation of the unfit, was also given prominence.

"The Conference of Sanitary Inspectors was presided over by Mr. Fred Polland, Chairman of the Sanitary Inspectors' Association, who gave an address on 'The Contamination of Food,' and dealt with the powers which exist for dealing with this subject. A paper of rather more than usual interest was given by Mr. H. Priestley, Chief Sanitary Inspector, Blackpool, entitled 'The Repeal of the Sale of Milk Regulations of 1901.' He stated that milk was governed by more legislation than any other article of food and that the Regulations of 1901 gave rise to more dissatisfaction than any other part of this legislation. All authorities, he said, agreed that although the average analysis of milk is above the accepted standard, nevertheless, some genuine milk falls below this standard and he was of the opinion that this proportion is greater than is generally realised—an opinion with which I am inclined to agree. He pointed out that adulteration with 5 per cent.-10 per cent. of water cannot be determined with certainty and, bearing in mind the variation occurring under certain conditions in normal milk, and also the fact that milk may be scientifically diluted, he advocated that the regulations be repealed.

"He examined some suggested means whereby the purchaser might be protected and then proposed it should be a condition of registration as a dealer in milk, that the milk sold should comply to the standard as now laid down unless varied by an expressed warranty. The local authority would take samples and, should the

milk be found deficient, damages would be recoverable against the dealer, although the criminal liability for adulteration of milk would be retained. This civic liability is somewhat on the lines of the warranty principles of the Fertilisers and Feeding Stuffs Acts.

"A lively discussion followed—the majority of speakers being against the repeal of the regulations and inclined to the opinion expressed by Dr. Fairer, Medical Officer of Health, Leicestershire, who said if the regulations were repealed it might lead to a poorer milk supply and that the better way to deal with the problem would be by discretion in the administration of present powers. The question is undoubtedly very difficult, as under present conditions there appears to be no doubt that many men have been convicted for offences of which they were innocent, while some unscrupulous persons may indulge in fraudulent practices with more or less impunity.

" The Section of Hygiene in Industry was occupied with questions of ventilation. Dr. Garry, Institute of Physiology, University of Glasgow, in tracing the history of the theories of ventilation, pointed out that the old theories incriminating expired air on the grounds of excess of CO_2 and deficiency of O_2 or the supposed contamination by injurious organic matter, other than bacteria, were now known to be false. The action of ventilation is merely that of removing excessive body heat—which is very considerable—and for the efficient performance of this function, air movement is necessary.

" Dr. Elizabeth C. Mudie presented a paper to the Conference of Representatives of Sanitary Authorities on 'Air Pollution and the Rising Incidence of Cancer.' She stated that the death-rate from pulmonary disease was much greater after foggy weather, and proceeded to argue that there was also a relationship between the increase in cancer and the increase in the pollution of the atmosphere by smoke. She pointed out that the domestic fire was a more likely source of danger than factory boilers which, moreover, are controlled by legislation, the reason for that being that factory chimneys do not give off the same constituents of smoke as does the ordinary household fire.

" Section F—Veterinary Hygiene, had as its President Mr. A. Gofton, Chief Veterinary Officer, Edinburgh, while Mr. Dixon, Chief Veterinary Officer, Leeds, this year succeeded Mr. Hayhurst as Recording Secretary. The meetings were very well attended and as usual, attracted a large number of medical officers, sanitary inspectors and others, in addition to veterinarians.

" The President, in his addess to the section, dealt with the same subject as did Major-General Sir John Moore at Margate last year, *viz.*, ' Bovine Tuberculosis and Consequent Infection of the Milk Supply.' He said that although human tuberculosis of bovine origin was on the decrease, nevertheless it had been said that there was a distinct increase in the amount of tuberculous milk being marketed and that the risk of infection from this source was, therefore, actually increasing. He could not agree with this latter opinion, but admitted that the present progress towards making the milk supply safe was far from satisfactory—a view with which one with an intimate knowledge of the subject must agree. He discussed the question of pasteurisation and threw doubt on the efficiency of the process as often practised commercially for the destruction of tubercle bacilli and also pointed out the depreciation of the nutritive value of milk after pasteurisation. In this connection, I would remind you that, as reported in the *Veterinary Record* of August 29th, Dr. Stenhouse Williams, of the National Institute of Research in Dairying, read an informative paper before the International Dairy Congress at Copenhagen, in which he advances this theory and quotes experimental evidence in support of his views. Mr. Gofton said that conditions under which pasteurising is allowed, require tightening, and that plants and processes should comply with a legislated specification instead of being allowed to comply with the varying requirements of local authorities.

"He then discussed the infection of milk and pointed out that a single cow might render infective no less than 150 gallons of milk, even after pasteurisation by the flash method, and also that a dangerous animal need not be an old-standing and extensively affected case of tuberculosis; the latter view, unfortunately, I have personally had opportunity to accept on more than one occasion. He pointed out also the risk of infection in tuberculin-tested herds where animals were recruited from doubtful sources, and suggested that the licence to produce tuberculin-tested milk should specify that any animal introduced into the herd should be only from a clean self-contained herd.

" Dr. Charles Porter, who occupied the chair, in proposing a vote of thanks to Mr. Gofton, agreed with the views expressed, and asked for publicity to be given to the question discussed. Alderman Wolly, of Ilkeston, in seconding the vote of thanks, stressed the need for education upon this matter, especially in country districts.

" Two papers were presented to the section, one by Dr. Gerald Leighton, Medical Officer of Health (Foods), Scotland, and the other by Mr. Harold Burrow, Chief Veterinary Officer, Birkenhead. Dr. Leighton discussed ' The Disposal and Control of Condemned Foodstuffs,' and dealt mainly with meat and the various methods in vogue in Scotland. In more than one-third of the boroughs and over half of the counties, condemned foodstuffs were buried or

otherwise wasted; while in some places condemned meat was sent to knackeries or sold to kennels, in others the material was sold for the manufacture of manures, while in a very few boroughs, condemned meat was mixed with refuse to use for manuring the land. He pointed out that—as must be obvious to anyone with even a cursory knowledge of the subject—the ideal method is the treatment of such material by the local authority themselves so as to produce marketable residues. Economically, however, this is rarely practicable, but other methods may leave loop-holes by which such material may reach the public as food. Unfortunately—though admittedly rarely—such loop-holes have been known to function adversely to the public interest, and in order to remove these loop-holes he advocated that regulations should be made to ensure that local authorities did not lose touch with condemned foodstuffs until they had been rendered perfectly harmless—a view which even my somewhat limited experience forces me to accept as essential in the interests of the community.

" The general feeling of the meeting was that unless very large quantities of condemned food were constantly available, it was better, if possible, to allow the material to be dealt with by private enterprise, under supervision. The practice in the area in which I work is to send all such material to factories for the manufacture of non-edible fats and manures. Before leaving the slaughter-house the meat is liberally sprinkled with a solution of commercial methylene blue and frequent visits are paid to the factories to ensure that the material is satisfactorily treated. The butchers receive payment from the factories for material thus received.

" Mr. Burrow's paper entitled ' The Bacterial Contamination of Milk and its Significance,' was a text-book *in parvo*. The author deserves great credit for the presentation of such a mine of information, but in my opinion he attempted far too much, with the result that the ensuing discussion, although prolonged, lost much of its value. I would recommend all those who are interested in the subject to make a point of reading the paper when published in the *Journal of the Royal Sanitary Institute.** It may be of interest to mention that our old friend the cat was not allowed to escape from the rôle of villain in the diphtheria tragedy, although he has acquired a partner in crime—our friend the dog. Mr. Burrow admits that neither animal is susceptible to the overtures of Messrs. Klebs-Lœffler, as far as permanence of residence is concerned, but states that they may act as passive carriers from human cases to milk.

" Mr. Torrance and Dr. Leighton, in discussing the paper, both deprecated the importance which was usually attributed to the presence of *Bacillus coli* in milk, while Mr. Ritchie cited a case in which coliform bacilli were excreted over a long period from a cow's udder.

" Dr. Williams, of Barking, made a spirited protest against the dirty milk which is still reaching the towns in spite of the provisions of the Milk and Dairies Order, 1926, and spoke strongly against pasteurisation which, he said, kills the beneficial organisms but leaves the harmful ones.

" Mr. Torrance and Dr. Fairer, of Leicestershire, pointed out that if the present legislation were used as intended, all milk would attain to the Grade "A" standard, while the latter gentleman also appealed for leniency in regard to the structural requirements of cowsheds and dairies, stating that a better way to procure clean milk was to shut up the dirty producers."

The President said that he was sure they were indebted to Mr. Bywater for attending the Congress as the Society's delegate and for rendering so lucid a report. (Hear, hear.)

Captain Townson, in associating himself with the President's remarks, observed that, in his view, members of Divisions should study with avidity the reports made by their delegates to the Royal Sanitary Institute Congress; being a member of that Institute, he had found the reports most useful to him. Unfortunately, he was unable to attend the Glasgow Congress, but Mr. Bywater's report had amply compensated him for his absence.

Johne's disease.—The next item on the agenda was " To discuss the advisability of making Johne's disease notifiable," but owing to the lateness of the hour and the importance of succeeding business, it was agreed, on the proposition of Mr. J. Willett, seconded by Captain Stow, to postpone consideration of this matter to a subsequent meeting.

Veterinary treatment for the animals of poor people.—The meeting went into committee to consider this matter.

On the resumption of open meeting, at a much later hour, the following resolution, proposed by Professor Wooldridge and seconded by Mr. J. Willett, was carried unanimously: " That this Society recommends to the profession co-operation with the R.S.P.C.A. or other charitable body in operating an approved scheme for the provision of treatment for sick animals of poor people."

It was further agreed to recommend to the N.V.M.A. that this resolution be communicated to the Press.

The meeting terminated with the passing of votes of thanks to those who had introduced morbid specimens or interesting cases, and to the President for his conduct of the proceedings.

J. F. Macdonald, *Hon. Secretary.*

*Mr. Burrow's paper received publication in our last issue.—Ed.

THE VITALITY OF THE HUNT

Packs of To-day and Yesterday

"In the winter of 1861-62 there were 101 packs of foxhounds in England and Wales, though I am not sure that all of them hunted foxes," writes a correspondent to *The Times*, under the above headings, in last Monday's issue of that paper. "One or two of the smaller packs may have hunted hares. There are now 190 packs, or nearly double as many. This means that all the country which the masters of 1861 covered is still hunted, though more closely than it used to be, and it means, too, that all the packs in the earlier list still survive under one name or another. Even the old names die uncommonly hard. Of the 101 packs of 70 years ago there are 81 which are carried on under exactly the same name, or under names which have been hardly altered. Mr. Garth's hounds, for example, are now the Garth, and Mr. Meynell-Ingram's the Meynell. Other packs, which in those days were called after the master who owned them and often hunted them himself, have now taken names from the district to which they belong—to take two instances, Mr. Trelawney's is now the Dartmoor and Lord Dacre's the Hertfordshire. Several counties, like Herefordshire and Shropshire, which had only one pack in 1861, have now two or three, so that some additional epithet, such as South or West or Old, has been added to the original name.

"Changes in the financial arrangements of foxhunting have been rendered necessary by obvious causes. The expenses of many masters of hounds are no doubt heavy enough at the present time, but the hospitable practice of providing free foxhunting for the county has suffered greatly by taxation. Still, it must be remembered that the subscription pack is a very ancient and time-honoured institution, and that some of the most famous masters in foxhunting history were liberally supported by their neighbours and by those who followed their hounds. When Mr. Meynell took the Quorn at the beginning of the nineteenth century the subscription list amounted to between £2,500 and £4,000 per annum. There were frequent instances of men stipulating before they accepted masterships that a certain share of the cost of keeping hounds should be guaranteed to them. Individual contributions to this sum varied in accordance with the means of those who supplied them.

"Nowadays most of the leading hunts publish a regular scale of charges. This tariff shows exactly what a regular follower has to pay and what a casual visitor has to pay. Some formal system of this kind is clearly necessary, and that it works satisfactorily is shown by the number of those who accept it.

"Many changes of masterships are announced at the beginning of each hunting season. This, again, is no novelty. A comparison of the list of 1861 masters with that of five years earlier shows that about half of the packs had changed hands in the interval. At the present time the senior M.F.H. is Mr. John Straker, who has had the Tynedale pack for 48 years, and there are five other masterships which date from the nineteenth century. The tenure of the office is apparently about as long as it ever was. An alteration that calls for notice is the increased number of joint masterships. Of the 190 packs of 1931, 12 are managed by committees, 118 have a single master, and 60 have two, or sometimes three, masters. Of the 101 packs in 1861, 95 were under a single master, four under dual control, and two under committees. Apart from the packs that are under committees, there are 240 people, 225 men and 15 women, associated officially with the direction of foxhunting in this country to-day. A still more marked change is the number of masters who now hunt their own hounds. Though many famous foxhunters of the past were eminent in the field, it was more usual to leave the management of hounds during the run to professional huntsmen. The percentage of masters who are experts as well as enthusiasts has risen from 20 to 50 per cent., a fact which shows that the science of venery is more widely studied to-day than it was in the time of our grandfathers."

THE "VETERINARY BULLETIN"

Volume 2 of *The Veterinary Bulletin* is to be issued monthly as from January 1st, 1932, and will run to about 864 pages, including the index for each monthly issue and the final classified volume index. It will cover the same ground as volume 1, but will be much more complete and will include references to all important British and foreign scientific work relating to veterinary research, administration, public health, and education. Although it was originally intended that the issues for 1932 and onwards should cover only 600 pages annually, expansion has been necessary in order to deal with the amount of material available. The subscription will be £2 for the volume, or 5s. per copy, payable in advance, post free to any part of the world. Communications should be addressed to the Imperial Bureau of Animal Health, Veterinary Laboratory, Ministry of Agriculture and Fisheries, Weybridge, Surrey.

OVERCOMING CALKIN SHOEING OBJECTIONS

We believe many of our readers may welcome having their attention drawn to the recent adaptation of Gragrip Shoeing (as illustrated in our advertisement columns) to up-turned or calkin shoes.

In many parts of the United Kingdom, as is well-known, calkin shoeing is very prevalent, notwithstanding the drawbacks of such shoeing regarded from a health point of view, as by such shoeing, the frog is raised completely out of action to the extent of the height of the calkins used, thus inviting atrophy of the frog, weak heels and other troubles.

It will be understood that with the new Gragrips, the steel bridge (holding rubber underneath) when riveted to the road surface of shoe, with calkins of equal height as the rubber itself, provides such a shoe with a clean ground or road surface, so that the frog then has a perfectly hygienic resisting substance, against which it is enabled healthily to carry out all its natural purposes, by actively and effectively functioning—precisely as it would do with the foot unshod.

It is unnecessary to stress the unique advantages of Gragrip method of shoeing as applied to flat shoeing, as a slipping preventive, this being acknowledged and explained in veterinary standard works and fully recognised by most of the leading practitioners, several of whom have verified the valuable assistance this shoeing has afforded in getting the best from, and retaining the best in horses at a time when every assistance is needed towards furthering horse interests. It may, therefore be said that the Gray Horseshoe Pad Co., in supplying the means of overcoming the real and serious objections to calkin shoeing, have performed a service that may well be recognised by support from the Profession.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

DIARY OF EVENTS

Jan. 4th.—N.V.M.A. Committee Meetings at 2, Verulam Buildings, Gray's Inn, W.C.1; Organising Committee, 3 p.m.; Special Committee, 4.30 p.m.

Jan. 5th.—N.V.M.A. Council Meeting at 10, Red Lion Square, W.C.1, 2.30 p.m. N.V.M.A. Committee Meetings at 2, Verulam Buildings: Appointments, 10 a.m.; Parliamentary, 10.45 a.m.; Sub-Committee on Certificates of Tuberculin Testing, 11.15 a.m.; Veterinary Officers' and Public Health, 11.45 a.m.

Jan. 6th.—R.C.V.S. Registration Committee. Council Meeting, Victoria Veterinary Benevolent Fund.

Jan. 7th.—R.C.V.S. Examination Committee, R.C.V.S. Registration Committee; Congress Executive Committee.

Jan. 8th.—R.C.V.S. Library Committee; R.C.V.S. Finance Committee; R.C.V.S. Council Meetings.

Jan. 11th.—N.V.M.A. Editorial Committee Meeting at 2, Verulam Buildings, Gray's Inn, W.C.1.

Jan. 12th.—Meeting of the Derbyshire Division, N.V.M.A., at Derby.

Jan. 14th.—Meeting of the Central Division, N.V.M.A., at 10, Red Lion Square, W.C.1.

Aug. 8th-13th.—N.V.M.A. Jubilee Congress at Folkestone.

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PERSONAL

Mr. Eustace Montgomery, M.R.C.V.S., the Adviser in Animal Health to the Secretary of State for the Colonies, set out for Nigeria on December 30th and will visit in addition, the Territories of the Gold Coast, Sierra Leone and the Gambia. He expects to return to England towards the end of April.

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We note from a report of the Scottish Metropolitan Division, N.V.M.A. (to be published in an early issue) that that very "live" organisation has failed to persuade its energetic Secretary and Treasurer, Mr. William C. Miller, to continue to hold, for another year, the joint office which he has filled with such benefit to the Society since 1925. Mr. Miller's successor is Mr. J. N. Ritchie.

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Wills.—Mr. Alfred Joseph Sewell, M.R.C.V.S., of Oatlands Chase, Weybridge, Veterinary Surgeon to Queen Victoria and to King Edward VII., and first Honorary Veterinary Surgeon to the London Zoological Society, who died on November 16th, aged 77, left estate of the gross value of £69,640, with net personalty £11,610. He left:—

The medal and gold pin "given to me by his late Majesty King Edward," and all his gold and other sleeve links, and a gold pin and amethyst and pearl pin given to him by the Duchess of Fife, to his grandson, Alfred Jack Sewell.

£250 and on the death of his wife £1,500 to Pauline Dumon, "known in the family as Coxie," if residing with his wife at his death; £100 each to Harry Brown and George Long, formerly in his service; £50 to his gardener, A. Kench.

£250 to Weybridge Hospital, payable on the death of his wife, "in memory of my son Joe, who was so kindly nursed there during his last illness"; £250 to Walton Cottage Hospital, payable on the death of his wife.

£150 to the Garden Alpine Society, the interest to be used for a "Sewell" Prize, to be given annually for the best collection of Alpines in pans or pots at one of the summer shows of the society.

£1,000 to Guy's Hospital, payable on the death of his wife, in memory of his son, Lewis Duerdin Douglas Sewell.

£250 to the Royal College of Veterinary Surgeons, payable on the death of his wife, for the library fund.

Hall, Mr. Harry (65), of Bury, Lancs., veterinary surgeon, a director of the Crown Brewery Company, Bury (net personalty £21,929), £22,819.

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R.C.V.S. OBITUARY

Littler, Samuel, Newark, Notts. Graduated Edinburgh, April 14th, 1871. Died December 23rd, 1931; aged 81 years.

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RECIPROCITY

When Professor F. T. G. Hobday, an old boy of Burton Grammar School, distributed the prizes at the school speech day, at Burton Town Hall, on December 14th, he was presented with a "prize" himself in the form of a cheque from the masters and boys as a contribution towards the re-building of the Royal Veterinary College.

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VETERINARY TRAINING IN U.S.A.

"Upon recommendation of the faculty of the Division of Veterinary Medicine, Kansas State College, the general faculty of that institution has approved the adoption of a five-year curriculum in veterinary medicine, the lengthened course to become effective in September, 1932," says the *Journal A.V.M.A.*

"Dean Dykstra advises that the new five-year curriculum will be entirely under the supervision of the veterinary faculty. The first year of the course will be known as the pre-veterinary year and will include thirty semester hours of college credits, divided among the following subjects:—English (5 to 6 hours), general inorganic chemistry (5 to 10 hours), zoölogy (5 hours) and elective courses (9 to 10 hours). It is recommended that the elective courses be selected from a modern language (either German or French), physics and mathematics.

"A high-school graduate may enrol for the pre-veterinary year at Kansas State College. However, the year may be taken at any approved junior college, college or university. Students intending to take the veterinary course at Kansas State College are urged to take the pre-veterinary year at that institution.

"The last four years of the enlarged curriculum will be devoted almost entirely to strictly professional courses. These four years have been strengthened, particularly in milk and dairy inspection, meat hygiene, as well as in poultry, pet animal, sheep, swine and cattle practice.

"Kansas State College will also offer two six-year combination curricula, the first of these leading to the two degrees Bachelor of Science in Agriculture and Doctor of Veterinary Medicine, and the second to the degrees Bachelor of Science and Doctor of Veterinary Medicine.

The October issue of the *Cornell Veterinarian* contains an announcement to the effect that the New York State Veterinary College at Cornell University, beginning in September, 1932, will require one year of college work for entrance. This pre-veterinary year of college work must

include six hours of chemistry, six hours of English, four hours of either French or German, and fourteen hours of elective subjects.

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EAST EUROPEAN AGRARIAN CONFERENCE

The Sofia Correspondent of *The Times*, in a message to his paper dated December 13th, states:—"The East European Agrarian Conference, which has been sitting here since Thursday, terminated with the passing of a series of resolutions proclaiming the need for common action by agricultural countries, based on close collaboration with the League of Nations and international agricultural and economic organisations as the only means of safeguarding their interests in the present crisis.

"The resolutions call for the suppression of restrictions on the import into industrial countries of the produce of European agricultural countries, and the adoption by industrial countries of a system of Customs preferences for that produce. The Conference appealed to the Governments which signed the Convention for the establishment of the international agricultural mortgage credit company to expedite its ratification, and declared that the formation of that company within a relatively short time, and the organisation of the transfer of surplus capital from Western Europe to the agricultural States, would be the best proof of the importance of the League of Nations as an instrument for settling international economic problems.

"The Conference recognised the importance of the formation of a short-term agricultural credit bank, as proposed by the International Institute of Agriculture, and asked the League of Nations to undertake the work of organising agricultural exports on lines similar to those being considered in Geneva for the stabilisation of industrial production. It also drew attention to the need for removing obstacles to the export and transit of animals and animal products emanating from the States of the Agrarian Bloc, and recommended the Governments of the Bloc to unite in order to accelerate discussion of the drafts of three general veterinary conventions drawn up in Geneva, and the drafting of international conventions relating to the import and export of live cattle and meat.

"This resolution particularly concerns Bulgaria, whose demand for a veterinary convention with Yugoslavia was rejected by the Yugoslav delegate. There was also disagreement between the Polish and Czechoslovak delegations about the progressive industrialisation of agricultural countries, which was called for by Poland and opposed by Czechoslovakia."

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NATIONAL HORSE ASSOCIATION

Major-General Geoffrey H. A. White, presiding at the Council meeting of the National Horse Association of Great Britain, held recently at 12 Hanover Square, London, presented to Police-Constable Arthur James Giles, London, the Association's silver medal and merit of certificate in recognition of bravery displayed in stopping two runaway horses in London. The president also informed the meeting that merit certificates had been awarded to Mr. Herbert Austin and Mr. Tom Healey for stopping a runaway horse in Leeds. The Publicity Committee approved of the issue of the Horse Owners' Reference Book, which would incorporate all useful information of value to the horse owner and breeder. Copies of the book would be supplied free to members of the Association, and would be on general sale at 1s. per copy. The final details of the publication were determined, so that it might be available for distribution in the New Year. The committee also approved a leaflet embodying extracts of an article by Mr. J. S. Holloway on Road Transport Methods in Leeds. From this it would appear that three tons of coal are delivered for 13s. 4d. by horse in Leeds whereas the cost of a similar delivery by motor is 21s. 8d. In London the costings of a large firm indicate that the running expenses of a single horse van are 19s. 6½d. compared with 28s. 10d. for a 25 cwt. motor van. Having regard to its value in indicating the economy of horse transport over motor, the committee recommend the general distribution of this leaflet.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

ROUTINE VETERINARY INSPECTION OF DAIRY CATTLE: MAINLY FROM THE POINT OF VIEW OF TUBERCULOSIS

To the Editor of The Veterinary Record.

Sir,—I have read the articles in your issue of December 19th with interest.

Dr. Savage states:

> "Annual examinations are commonest, biannual are practised in some areas but nowhere outside cities (where the cow population is small and which do not affect the problem) are more frequent examinations carried out. We can accept quarterly examinations as the extreme limit administratively possible."

Presumably, therefore, Dr. Savage is unaware that in Surrey all the cows belonging to persons registered as cow-keepers have been examined by the Veterinary Officers of the County Council at least four times annually since January 1st, 1928. These examinations are now being carried out with the cordial co-operation of the Medical Officers of Health of the sanitary districts concerned and the farming community, resulting in an improved milk supply and the disappearance of most of the administrative difficulties referred to by Dr. Savage.

Yours faithfully,
F. W. Medlock,
Chief Veterinary Officer.

Surrey County Council,
Veterinary Department,
County Hall,
Kingston-upon-Thames.
December 22nd, 1931.

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JOHNE'S DISEASE

To the Editor of The Veterinary Record.

Sir,—With reference to the last paragraph of Mr. Tutt's interesting letter on the above disease, I would like to suggest to Mr. Tutt that he should try "Johnin" as supplied by Dr. Sheather. In common with many others, I think that an animal may be suffering from Johne's disease for a long time before manifesting any really reliable clinical symptoms.

An owner of a slaughterhouse in Warwickshire told me recently that this disease is greatly on the increase. I have myself lost four good cows and a valuable bull from it during the last six months.

Yours faithfully,
Graham Rees-Mogg.

Regents Park Barracks,
N.W.1.
December 21st, 1931.

PASTEURISATION

To the Editor of The Veterinary Record.

Sir,—Mr. G. Mayall's query in your issue of December 19th last is one of very great importance and should have been definitely answered long before this.

There are, however, at least two classes of scientists in research work: the object of one of these is to make strenuous efforts to unravel the many problems which confront us, while it would almost seem that the other class endeavour, by destructive criticism, to retard advance. In nothing does this remark apply so truly as in the views held by members of the medical profession especially, on the subject of the pasteurisation of milk.

It is an irrefutable fact that heat applied to milk has a deleterious effect upon many of its constituents, proportionate to the degree to which it is applied. Enzymes, vitamins, many mineral salts, casein, etc., etc., are rendered more insoluable, or destroyed altogether, in so far as their food value is concerned, by heat. Toxins, however, which should ever be present in milk which needed pasteurising, are not destroyed by heat; and they are seldom mentioned for the reason that it is *not known* what systemic disturbance they would cause upon ingestion, if any.

As Mr. Mayall very justly remarks, "If the food value . . . remains unimpaired, why give children orange juice?" To me this is an admission by those who advocate its use, that something is wanting, and therefore its use for children should not be advised.

Statistics (practical) I am confident would solve the problem, but the impossibility of obtaining these must be apparent to everyone. Laboratory statistics in abundance are available which would condemn the use of pasteurised milk for children. Dr. Stenhouse Williams, of the National Institute for Research in Dairying, Shinfield, and his very efficient staff, have done very excellent work in this direction, and given us most valuable information.

I would advise Mr. Mayall to write him for information, and he will receive a most courteous reply and a supply of pamphlets setting out many of their investigations.

I have taken very many samples of so-called pasteurised milk and examined it for fat content, and have never yet come across a single sample showing more than 3·2 per cent. Does this suggest anything, seeing that many samples, as they come from the cow, may vary up to 5 per cent.?

I would like to take this opportunity of congratulating Mr. Eaton Jones upon his excellent reply to Dr. Savage who, in my opinion, is airing his views upon a subject of which he is wanting in practical experience. I also think that Dr. Savage's reply is most unsatisfactory and open to most severe criticism.

Yours faithfully,
J. C. Coleman, M.R.C.V.S.

Swindon.
December 28th, 1931.

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"PLUM" TOES IN FOXHOUNDS

To the Editor of The Veterinary Record.

Sir,—I am surprised to note, in the discussion on Professor Weir's most interesting paper on greyhounds, reported in your issue of December 19th, that the so-called "Filleting Operation" on the toes of foxhounds, is reported as being a failure.

Is not the operation often highly successful in this breed, not only in restoring "cripples" to soundness, but with the added advantage that hounds of sufficient merit can still be shown on the flags, the pad not being mutilated—a great point with a keen kennel-huntsman?

I am, Sir,
Yours faithfully,
William Trigger, F.R.C.V.S.

Newcastle, Staffs.
December 28th, 1931.

Diseases of Animals Acts, 1894 to 1927

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 1st to 15th December, 1931	18	18	—	—	5	5	27	103	57
Corresponding period in 1930	24	27	—	—	3	3	51	91	38
1929	12	13	—	—	6	6	78	197	118
1928	28	31	1	34	9	23	86	52	26
Total 1st January to 15th December, 1931 ...	443	491	97	10,257	133	231	293	1,908	818
Corresponding period in 1930	362	409	8	306	189	284	439	2,331	1,043
1929	417	507	36	3,448	195	377	589	2,841	1,661
1928	517	597	134	11,143	260	539	625	1,432	723

Note.—The figures for the current year are approximate only.